

Collaborative Efforts to Improve Student Transitions

House Bill 3103 Progress Report

February 2005

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917 Lakeridge Way SW
P.O. Box 43430
Olympia, WA 98504-3430
360.753.7800
www.hecb.wa.gov

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Executive director

Contents

Executive Summary

Introduction

Statutory Charge.....	3
Need to Improve Transitions	4

Overview of Current Programs and Initiatives that Promote Student Transition

Dual Credit, Dual Enrollment Programs.....	5
--	---

 Running Start; College in the High School; Advanced Placement; International Baccalaureate; Tech Prep; Early College High Schools; Middle Colleges;
 Findings of the Dual Credit Work Group

Early Outreach and Readiness Efforts	10
--	----

 GEAR UP; TRIO Programs; Washington State Achievers Program (Gates Achiever Schools); Partnerships for Learning; Inventory of College Preparation Initiatives; Washington Council on High School-College Relations

Improving Curriculum and Instruction	14
--	----

 Transitions Mathematics Project; Strategies to Improve Teacher Knowledge/Skill in Mathematics Instruction; Remedial Education Work Group; Pre-College Course Taking in Two-Year Institutions; Minimum College Admission Standards; Defining College Readiness in Key Subject Areas; Federal Grants to Improve Teacher Quality

Conclusions and Continuing Work Groups	19
--	----

Appendices

Appendix A: Data Tables	21
-------------------------------	----

 Table 1: High School Dropout Rates by Race/Ethnicity
 Table 2: Meeting or Exceeding 10th Grade WASL Standard
 Table 3: Students Needing Remedial Coursework by Race/Ethnicity
 Table 4: Percentage of First-time-in-college, Bachelor Degree Seeking Students

Appendix B: Reports	25
---------------------------	----

- *Working Paper: Recommendation of the Dual Enrollment Work Group* B-1
- *Washington Opportunity Scholars* B-3
- *Pre-college (remedial) Course-taking in Washington Postsecondary Education: Causes and Solutions* B-5
- *Pre-college (remedial) Course-taking by Recent High School Graduates Who Attend Washington Community and Technical Colleges* B-17
- *College Readiness Standards working draft from the Transitions Mathematics Project* B-25
- *Higher Education Coordinating Board Strategic Master Plan – Chapter 8: Helping Students Make the Transition to College* B-29

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Collaborative Efforts to Improve Student Transitions: House Bill 3103 Progress Report

Executive Summary

With the passage of House Bill 3103 in 2004, the Legislature recognized the challenges facing students as they move from one educational sector to another. The omnibus legislation, which amended and clarified the mission of the Higher Education Coordinating Board (HECB), specifically called on the board to:

... work with the state board of education, the superintendent of public instruction, the state board for community and technical colleges, the work force training and education coordinating board, two and four-year institutions of higher education, and school districts to improve coordination, articulation, and transitions among the state's systems of education. The goal of improved coordination is increased student success. Topics to address include: expansion of dual enrollment options for students; articulation agreements between institutions of higher education and high schools; improved alignment of high school preparatory curriculum and college readiness (2004 c 275 § 17; 1994 c 222 § 3).

There is considerable progress to report in these areas, much of which began years before the passage of HB 3103. Over the past several years, programs such as Running Start and College in the High School have offered dual credit opportunities to thousands of Washington K-12 students. Early outreach initiatives, such as GEAR UP and TRIO, have linked schools, colleges, and communities to usher entire cohorts of low-income and disadvantaged students into higher education. And schools, colleges, and the state can point to several efforts to improve teacher preparation and development.

In 2004, three statewide cross-sector work groups were formed to address specific policy issues around dual credit, remedial education, and mathematics instruction. Nevertheless, significant barriers remain for students, and the Legislature's action in 2004 has redoubled the emphasis the state must give to cross-sector solutions.

This first progress report, required by the 2004 law, documents the work that has been accomplished to date, and outlines planned efforts to improve students' transition between educational sectors. It focuses on three specific areas: (1) expanding dual credit programs, which allow students to earn college credit while they progress toward high school graduation; (2) encouraging students – through early outreach efforts – to plan and prepare for postsecondary study; and (3) improving curriculum and instruction in high school.

The HECB will submit biennial updates of this report to the Legislature beginning in January 2007. In January 2005, the HECB also submitted a progress report on articulation and student transfer, *Articulation and Student Transfer, House Bill 2382 Progress Report*.

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Collaborative Efforts to Improve Student Transitions: House Bill 3103 Progress Report

Introduction

Statutory Charge

Moving from high school to college is a challenging transition for many students. Today's students are bombarded with educational choices. Options emerge as early as the elementary and middle grades, with magnet schools emphasizing particular subjects, special programs offering student-directed learning, and other innovations. In high school, the pathways broaden and proliferate as students regularly choose among general coursework, career and technical education, college preparation tracks, and a variety of opportunities to earn college credit while progressing toward a high school diploma. The range of opportunities for students who have graduated from high school and are about to pursue postsecondary study is equally complex and diverse.

With the passage of HB 3103 in 2004, the Legislature recognized the challenges facing students as they move from one educational sector to another. The omnibus legislation, which amended and clarified the mission of the Higher Education Coordinating Board (HECB), specifically called on the board to:

... work with the state board of education, the superintendent of public instruction, the state board for community and technical colleges, the work force training and education coordinating board, two and four-year institutions of higher education, and school districts to improve coordination, articulation, and transitions among the state's systems of education. The goal of improved coordination is increased student success. Topics to address include: expansion of dual enrollment options for students; articulation agreements between institutions of higher education and high schools; improved alignment of high school preparatory curriculum and college readiness (2004 c 275 § 17; 1994 c 222 § 3).

This first progress report, required by the 2004 law, documents the work that has been accomplished to date, and also outlines the work ahead that is aimed at improving students' transition between educational sectors. It focuses on three specific areas:

- Expanding dual credit programs, which allow students to earn college credit while they progress toward high school graduation;
- Encouraging students – through early outreach efforts – to plan and prepare for postsecondary study; and
- Improving curriculum and instruction in high school.

The HECB will submit biennial updates of this report beginning in January 2007. In January 2005, the HECB also submitted a progress report on articulation and student transfer, *Articulation and Student Transfer, House Bill 2382 Progress Report*.

Need to Improve Student Transitions

Washington state needs its students to succeed. The demands of a 21st century economy require it, and the civic and cultural life of the state depends upon it. Washington's educators, policy-makers, and elected officials have been particularly focused on improving student success for more than a decade as the state has implemented K-12 reforms. Those efforts have shown considerable success, yet more progress is needed.

According to recent data from the Office of the Superintendent of Public Instruction (OSPI) and the National Center for Education Statistics (see tables in Appendix A):

- About one of every four Washington high school students drops out.
- A third of high school students do not receive diplomas within four years.
- Fifty-six percent of students did not achieve proficiency on the mathematics component of the 2004 10th grade Washington Assessment of Student Learning (WASL). More than a third did not achieve proficiency in reading or writing on the WASL.
- Of the 56 percent of high school graduates who go directly to public two- or four-year colleges, over a third enroll in remedial coursework for which they do not earn college credit.
- About 40 percent of freshmen at the state's public baccalaureate institutions will not earn bachelor's degrees from the same school within six years.
- African American, Latino, and American Indian students fare significantly worse than other students across all of these indicators (see tables in Appendix A).

There are many factors that contribute to these troubling statistics. Misaligned curriculum, inadequate teacher subject mastery and instructional methods, lack of early advising and outreach to middle and high school students, and student choices and behavior all contribute to poor student performance in these areas. Because these problems cut across all educational sectors, the solutions primarily lie in cross-sector collaborations.

This kind of collaboration among public schools, colleges and universities, and state education agencies has increased significantly in the past decade. These efforts show great promise in keeping students engaged in school, reducing remedial instruction in college, helping students progress as quickly as possible toward their goals, and improving the quality of curriculum and instruction.

In 2004, three statewide cross-sector work groups were created to address specific policy issues around dual credit, remedial education, and mathematics instruction. Nevertheless, significant barriers remain for students. The remaining sections of this report will outline significant work in these areas to date, and identify future policy directions that will further improve student success.

Overview of Current Programs and Initiatives that Promote Student Transition

Dual Credit, Dual Enrollment Programs

Dual credit programs enable high school students to enroll in courses that simultaneously award college credit and meet high school graduation requirements. These programs represent movement toward a more streamlined kindergarten-through-college (K-16) system by placing emphasis on a student's ability, rather than on his or her age. These programs are popular with students and parents for a variety of reasons. First, they allow students to earn college credit as soon as they are ready, potentially saving them time when they matriculate to college. Also, dual credit programs may save money for students and families, because out-of-pocket costs for participating in these programs are often significantly lower than regular college costs. In addition, these programs are credited with keeping many students engaged in education who might otherwise be at risk of dropping out of high school.

Dual credit programs and related initiatives take many forms in Washington, as summarized below:

Running Start

Running Start (RS), created in statute by the 1990 Legislature as part of the "Learning by Choice" law, is designed to expand educational options for high school students. After an initial pilot project phase, the program was expanded statewide in the 1992-93 academic year. RS enables 11th and 12th grade students to simultaneously earn college and high school credit by taking courses free of charge at community and technical colleges, as well as Central, Eastern, or Washington State Universities. The Evergreen State College is also authorized to offer RS, but to date has not done so. Colleges are reimbursed by school districts whose students participate in Running Start. Students are responsible for books and other expenses.

Before being admitted to a college through the Running Start program, high school students are tested to determine whether they are ready to do college-level work. Research has shown that the grade point average for RS students is comparable to that of similar two-year college students, and that RS students who transfer to a four-year institution perform as well as, or better than, traditional college students.

The number of students involved in Running Start has grown steadily since the program began. About 10 percent of all public high school juniors and seniors are currently enrolled in at least one college course through RS. In 2003-04, 15,610 students participated in the program – which was a 6 percent increase from the 2002-03 year.

College in the High School

College in the High School (CHS) programs provide college-level academic courses in high schools to serve qualified 11th and 12th grade students. Courses are offered at the high schools, and may be taught by high school faculty who are also adjunct faculty at a college. The programs use the same curriculum, assessments, and textbooks as identical courses offered on campus. The courses must be college level, included in the college's catalog or an appropriate supplement, and taught as part of the college curriculum.

There is no funding mechanism to support CHS courses, so students often cover the costs themselves. This lack of funding has resulted in only a limited number of CHS courses being offered around the state.

CHS programs are established via contracts between a high school and a college or university. The high school and college or university together define the criteria for student eligibility. Contracts clarify whether the classes will be directed at students who are pursuing college credit, or whether the classes can be comprised of both students who are seeking college credit and those who are not.

One example of a College in the High School program is at the University of Washington's\, where 1,957 students were enrolled in 13 courses during 2003-04. The greatest number of student enrollments were in: Spanish 101 Elementary Spanish (506); French 103 Elementary French (224); English 111 Composition/Literature (321); and English 131 Composition/Exposition (530).

Advanced Placement

Advanced Placement (AP) programs, developed in the 1960s, also offer high school students the opportunity to take college-level courses in their high schools. AP courses are taught by high school teachers following guidelines published by the College Board, a not-for-profit membership association whose mission is to connect students to college success and opportunity. Students participating in AP may earn college credit, depending on how they score on their AP examinations. The decision to grant credit or advanced placement status is made by the college or university that accepts and enrolls the student.

Sixty-five percent of Washington high schools offer at least one AP course, out of 34 possible subject matter courses that are standardized by the College Board. In May 2004, a total of 20,292 Washington high school students took at least one AP exam.

Participating high schools are typically mid-sized to larger, with sufficient numbers of students to sustain AP courses. Given their smaller size, rural high schools are frequently unable to offer AP courses.

The U.S. Department of Education's landmark study by Clifford Adelman, *Answers in the Tool Box*, found that a high school curriculum of "academic intensity and quality" such as that found in AP and IB courses (below) is the most powerful predictor of bachelor's degree completion, much more so than grade point average, SAT scores, or socioeconomic factors. Students from families within the lowest socioeconomic brackets who took AP courses were found to complete college at greater rates than students from wealthy socioeconomic brackets who had not taken AP or IB courses.

International Baccalaureate

The International Baccalaureate (IB) program is a college preparation course of study leading to examinations in core fields for students who wish to receive college credit for their work.

Colleges and universities may award credit for IB work, depending on IB exam scores. The program began as a way to establish a common college and university entry credential for students moving from one country to another.

International Baccalaureate programs typically operate as a "school within a school," offering the IB core curriculum throughout the entire high school period, grades 9-12. IB students are typically required to study a second language throughout their high school years, complete community service hours, and complete a senior capstone scholarly work.

Twelve high schools in Washington presently offer IB programs: A. C. Davis (Yakima); Capital (Olympia); Columbia River (Vancouver); Edmonds-Woodway (Edmonds); Henry Foss (Tacoma); Inglemoor (Bothell); Interlake (Bellevue); Kennewick (Kennewick); Kent-Meridian (Kent); Mt. Rainier (Des Moines); Skyline (Issaquah); and Thomas Jefferson (Auburn).

Tech Prep

Tech Prep is a federally funded program that allows students an opportunity to earn community college credit for some courses they take while still in high school. These courses are aimed at preparing students for technical and professional careers by requiring that they earn a B grade or better in order to earn credit. Students pay an application fee ranging from \$10 to \$30 to the college awarding the credit. Tech Prep credit is awarded for many types of courses, ranging from accounting to auto body repair, to drafting and Web site design.

There is reciprocity between high schools and colleges' teachers' qualifications in the professional technical fields. This reciprocity makes it easier to identify qualified high school faculty for Tech Prep than for the CHS program. Articulation agreements between the colleges and the high schools are based on competencies.

In 2003-04, Tech Prep headcount enrollments at community and technical colleges totaled 13,690. This represents a 65 percent increase in enrollments from 2001-02 (8,278), and a 3.4 percent increase in enrollments from 2002-03 (13,237). Students earned a total of 86,189 credits in 2003-04.

In 2003-04, the largest Tech Prep enrollments were at the following 10 community colleges: South Puget Sound (1,178), Green River (991), Skagit Valley (907), Bellevue (856), Pierce/Fort Steilacoom (847), Seattle South (698), Everett (672), Columbia Basin (588), Clark (572), and Big Bend (465).

Early College High Schools

Early College High Schools (ECHSs) are small high schools that offer rigorous personalized learning, blending high school and college requirements so students leave high school with diplomas and associate degrees. Early college programs have been sponsored in large part by external funding, from the Bill & Melinda Gates Foundation, Kellogg Foundation, Ford Foundation, and Carnegie Corporation of New York.

Since 2003, the Early College High School Initiative for Native Youth at Antioch University Seattle has opened five ECHSs in Washington, to respond to an urgent need to increase high school and college achievement among Indian students, the least academically successful group in the nation. By 2006, Antioch will open three additional ECHSs in Washington.

Each ECHS partners with a college and/or university. Those participating with Washington ECHSs to date include Northwest Indian College, Whatcom Community College, Skagit Valley College, Spokane Falls Community College, Olympic College, Everett Community College, the Institute for Extended Learning, and Gonzaga University.

Currently, enrollment in the five ECHS totals about 585 students, with large percentages of Native American students. At full growth, the five ECHS expect to enroll a total of about 1,550 students. These numbers will increase as additional ECHSs open.

As of early 2005, about 200 Native American high school students are taking college courses at the five Antioch project ECHSs. This is a 15-fold increase in the number of Indian secondary students enrolled in college classes. The academic performance of students is reported to be improving significantly, and the ECHSs report that their high school drop-out rates have decreased from 70 percent to 16 percent or less.

Middle Colleges

Middle Colleges (MCs) are alternative high school programs in which a student can earn a standard high school diploma while learning in a nontraditional setting on a college or university campus. The curriculum emphasizes inclusive, cooperative, and experiential learning. MCs maintain strong ties with both the partner colleges and the communities they serve. MCs maintain a core academic focus while addressing students' varied learning styles.

Seattle Public Schools currently offer the following four MCs in collaboration with colleges and universities, as a way of serving an urban, culturally diverse student population that includes many first-generation college students:

- Middle College at the American Indian Heritage High School is located on the North Seattle Community College campus. The student body is primarily Native American, however, all students are welcome. Students earn a standard high school diploma while learning in a nontraditional setting. Working in partnership with community members, students are empowered to be successful in both academic endeavors and society. Enrolled students are able to use college facilities.
- Middle College High School Education Resource Center is an alternative education joint venture between Seattle Public Schools, North Seattle Community College, and the Simon Youth Foundation. This MC addresses the academic needs of high school students who are at least 16 years old, and who want a smaller, more attentive high school experience. Students earn credits in core curricula, and can work independently in a self-paced environment. Students are also eligible to participate in an internship program.

- The Office of Minority Affairs High School is a small learning community that enrolls high school juniors and seniors on the University of Washington campus. In partnership with the Office of Minority Affairs, the mission is to provide underrepresented students with the academic tools they need to pursue higher education. Currently, 50 students and two teachers make up the core of the learning cohort. Other instructors provide additional classes (e.g., Spanish, computer). University students serve as tutors, and students also have access to university facilities, and may receive university admissions counseling.
- Middle College at South Seattle Community College helps formerly unsuccessful high school students aged 16-20 realize their potential through a curriculum that emphasizes critical thinking and social justice. The MCHS works to create a high school environment that encourages the development of community, personal responsibility, and active learning.

Findings of Dual Credit Work Group

The Dual Enrollment Work Group, formed in 2004, has taken the lead in identifying barriers and expanding dual enrollment options for high school students. The work group agreed that the major focus should be on creating opportunities for students to engage in college-level learning on high school campuses, with a goal of ensuring that a student's financial situation does not limit his or her participation.

The group found that expanding College in the High School programs is one of the best ways to help more students succeed. While College in the High School guidelines have been in place for several years, only a few colleges currently offer more than a handful of classes through these programs (see Appendix B).

The work group further identified several key barriers to expanding dual enrollment, including limits on financial aid; the view of some students that college credit is an enhancement rather than a more efficient method of obtaining college degrees; the reality that smaller schools may not have enough students to warrant dual credit programs; and the effect of poverty or geography on student participation.

The work group also identified numerous reasons for expanding dual enrollment programs, such as the economic benefit to families; students being able to preview college curricula and expectations; and dual enrollment programs bringing schools and colleges together to address strategies for improving student readiness and transitions from high school to college.

The schools and colleges and universities that are working to expand dual enrollment programs are addressing a range of important policy issues that will affect their capacity to truly expand these options in the future. These issues include:

- Course development (content and rigor)
- Funding structures
- Credentials of instructional faculty
- Supervision of instruction
- Incentives
- Student supervision and privacy
- Student eligibility/ability to benefit
- Reporting
- Transferability of credit hours

Early Outreach and Readiness Efforts: Planning and Preparing for Postsecondary Study

The range of opportunities for students moving from high school to postsecondary study is complex and diverse, and students face numerous challenges in planning and preparing for college. This is especially true for low-income and first-generation students, whose families often cannot provide adequate advice and counsel as students move through the educational pipeline. Public schools lack the staffing to provide adequate planning assistance; the typical student-to-counselor ratio in Washington is 500:1.

A number of special initiatives have been developed to serve students and their families as they plan and prepare for postsecondary study. Many of these are funded by extramural funds (federal and foundation grants), and are not available in all Washington schools. Proposed changes in federal policy may affect some of these initiatives in the future.

Key Washington programs funded significantly by federal and foundation monies include GEAR UP, TRIO programs, Washington Achiever Schools, and Partnerships for Learning.

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)

GEAR UP is a federal program that provides pre-college services – including comprehensive counseling, tutoring and academic services – beginning in middle school and continuing through high school. In Washington, services are provided by multiple GEAR UP grants.

Washington's state GEAR UP grant has been managed for the past five years by the HECB. Twelve local "Scholars" sites operate in the state, serving approximately 1,200 students annually. Scholars who document 150 hours of GEAR UP-sponsored activities qualify for scholarships to attend college for each year they participate in the program.

GEAR UP provides other services as well, including tutoring and early outreach. Of more than 24,665 students served by GEAR UP in Washington in 2003-04, about 67 percent were eligible for free or reduced-price meals, two-thirds were students of color, and 21 percent were from homes where English was not the primary language.

One of the major components of the state GEAR UP program is the University of Washington's GEAR UP Collaborative. The UW Collaborative offers week-long summer institute sessions on the UW campus, involving 800-1,000 students -- as well as professional development opportunities for GEAR UP teachers.

In fall 2004, the U.S. Department of Education awarded additional funds to the HECB's GEAR UP program for a pilot project aimed at helping bilingual students become teachers. In 2005, four Washington school districts (Pasco, Yakima, Grandview, and Sunnyside) will participate in this Teacher Mentoring and Training Program (TMTP). Teachers will serve as mentors to students, and a curriculum spanning grades 7-12 will be developed to guide program participants – including students, teachers/mentors, and parents. The pilot GEAR UP-TMTP represents the beginning of a "grow-your-own," long-term strategy for addressing the shortage of bilingual teachers and teachers of color in Washington state.

Nine GEAR UP Partnerships projects (\$12 million annually) also operate in Washington. Each must involve one or more school districts and one or more degree-granting institutions of higher education, and at least two other entities such as arts, parent or religious groups, businesses, college student organizations, or family organizations. Partnerships work with an entire grade-level of students, beginning no later than 7th grade, and continuing through high school graduation. They also provide comprehensive counseling, mentoring, tutoring, career guidance, summer academic enrichment programs, and college visits.

TRIO Programs

Trio programs, supported in large measure by federal funds, operate a number of outreach programs that help students prepare for and succeed in college. TRIO includes:

Educational Talent Search programs that serve students in grades 6-12. In addition to counseling, students receive information about college admission requirements, scholarships and student financial aid programs. This early intervention program helps people from low-income, first-generation families better understand their educational opportunities and options. In Washington state, programs are available at Centralia College, the Metropolitan Development Council, Northwest Indian College, South Seattle Community College, Tacoma Community College, the University of Washington, and Walla Walla Community College.

Educational Opportunity Centers primarily serve displaced or underemployed workers from low-income families. These centers help people choose a college and a suitable financial aid program. Three centers operate in Washington, at Central Washington University, the University of Washington, and the Metropolitan Development Council.

Student Support Services help low-income students stay in college until they have earned their baccalaureate degrees. Participants, including disabled college students, receive tutoring, counseling, and remedial instruction. In Washington, 19 programs are available. The following community colleges offer programs: Centralia, Bellevue, Big Bend, Columbia Basin, Everett, Green River, Lower Columbia, Pierce, Seattle Central, South Seattle, Tacoma, Walla Walla, and Yakima. Programs are also available at Central Washington University, Eastern Washington University, The Evergreen State College, Northwest Indian College, University of Washington, and Washington State University.

Upward Bound Projects help students prepare for higher education. Students receive instruction in literature, composition, mathematics, and science on college campuses after school, on Saturdays, and during the summer. Programs are available in Washington at Big Bend Community College, the City of Seattle Department of Housing, Columbia Basin College, The Evergreen State College, the Metropolitan Development Council, North Seattle Community College, Northwest Indian College, South Seattle Community College, the University of Washington, and Yakima Valley Community College.

Ronald E. McNair Post-Baccalaureate Achievement Projects encourage low-income students and minority undergraduates to consider careers in college teaching, as well as prepare for doctoral study. Students who participate in this program are provided with research opportunities and faculty mentors. These projects are available at Eastern Washington University, University of Washington, and Washington State University.

Washington State Achievers Program (Gates Achiever Schools)

The Washington State Achievers Program (also known as Gates Achiever Schools) provides college scholarships and mentoring for disadvantaged students with high potential at selected high schools in Washington. Scholarships of up to \$5,000 per year are available for four years of college leading to a bachelor's degree. Students are expected to work to defray additional educational expenses.

By providing scholarships to relatively large numbers of students in selected schools, the program is aimed at creating a culture of college attendance among low-income students that is akin to what is typical among middle- and upper-class families. Once the expectation of going to college is the norm among all students in the high school – regardless of family income – students will see college attendance and completion as a realistic goal, and their expectations and behaviors will change accordingly.

The Achievers network includes 16 schools: Cleveland (Seattle); Clover Park (Lakewood); Davis (Yakima); Foster (Tukwila); Henry Foss (Tacoma), Kent Meridian (Kent), Kittitas (Kittitas), Lincoln (Tacoma), Mabton (Mabton), Mariner (Everett), Mt. Tahoma (Tacoma), Stevenson (Tacoma), Tonasket (Tonasket), West Valley (Spokane), and Yelm (Yelm) High Schools, as well as the Truman Center (Federal Way).

Partnership for Learning

Partnership for Learning is an independent, nonprofit organization supported by Washington business and community leaders that works to increase public awareness and understanding about Washington's efforts to improve the quality of education for all students. The Partnership is supported by 60 business and community foundations and premised on the belief that broad public understanding and involvement is essential as schools work to improve student learning.

The Partnership provides a variety of communication tools about the state's school improvement effort for students and their parents. It also communicates with teachers and school communities about the state standards and tests and provides research-based information on how schools can organize to help all students meet the state standards.

The Partnership works statewide with community and education leaders in various communities, including: Bellingham, Everett, Olympia, Spokane, Tacoma, the Tri-Cities, Vancouver, Wenatchee and Yakima, to support local school improvement efforts.

Key initiatives underway by the Partnership are summarized below:

The Campaign for the Class of 2008 is a comprehensive effort to inform students, parents, educators and the community about Washington's graduation requirements. The campaign, funded by the Bill & Melinda Gates Foundation, was launched by education, state and business leaders. The Campaign will include a mailing to all families of the class of 2008, community meetings, workshops and other communication activities.

Washington Opportunity Scholars encourages Washington students to sign up for more challenging courses and preserve their options for the future. The Partnership for Learning launched this initiative in 2003 to encourage all students – especially those who may not be considered “college material” – to exceed the minimum diploma requirements and graduate academically ready for postsecondary education and careers. In addition to completing all local and state graduation requirements, students who choose to become Washington Opportunity Scholars will take a recommended course of study which includes: English, math, science, social studies, and foreign language (see Appendix B). Washington is one of 12 states selected by the Center for State Scholars to implement the initiative.

The GreatSchools: Online School Guide for Parents provides a resource for parents who want to learn more about school performance in Washington. Designed specifically for parents, this resource can help parents interpret, understand, and use school test scores, while also comparing the academic performance of demographically similar schools. The GreatSchools resource also provides important information about a school's climate and culture. In addition, parents can access a wealth of information about what they can do to help improve their child's learning. Special features include “how to have a productive school visit,” and questions to ask during a child's parent-teacher conferences.

The Washington Principals Forum is a major online resource, providing information that school principals can use to build their knowledge of education reform and better perform the responsibilities that come with the new and higher statewide expectations. Resources include updates on education reform, for background information and breaking news on standards, assessment, and accountability -- including the impact of the federal No Child Left Behind legislation; communication tools, for ideas on discussing standards with teachers, parents, and diverse groups within the community and guidelines for working with the media and distribution materials; national and state public polling information; and using research and data to find out how schools in Washington state are performing and to locate schools with similar demographics. Resources are also available to help principals find Web links on improving schools, as well as articles on successful practices -- such as how to use data to inform school improvement plans.

Latino Family Outreach focuses on translating resources of the Partnership -- including the 2008 Campaign -- into Spanish. The Partnership's Web site provides useful information and resources for parents, educators, and community members who are Spanish-speaking, or who regularly communicate with Spanish-speaking parents and students.

Inventory of College Preparation Initiatives

The 2004 Strategic Master Plan for Higher Education underscores the importance of helping students prepare for college. The HECD is initiating a first-time effort to document Washington's college preparation programs in order to better inform institutions and individuals that are interested in implementing or accessing such programs. The HECD's “Survey of College Preparation Programs in Washington” will be administered in spring 2005 to schools, agencies, and colleges and universities.

The survey will identify programs that focus on the following goals: improving students' academic achievement, increasing awareness about college, increasing the likelihood that a student will attend college, improving students' self-esteem, providing recreational or cultural opportunities, increasing parental awareness about college, and/or increasing parental involvement in college preparation.

By September 2005, the HECB will publish a report on promising state and national college preparation practices, including classroom-type academic instruction, academic advising, tutoring, mentoring, test preparation, assessment of readiness for college work, early college credit options, college campus visits, financial aid application assistance, financial aid (scholarships, etc.) for college costs, cultural activities and field trips, and personal counseling.

The HECB will identify these promising practices in collaboration with the State Board for Community and Technical Colleges, the Office of the Superintendent of Public Instruction, and public and private colleges and universities.

Washington Council for High School-College Relations

The Washington Council for High School-College Relations, a statewide organization of high school counselors and admissions officers, provides forums to improve students' transition from high school to college. Initiatives are provided for students and parents (college fairs) and high school counselors. Counselor workshops provide a forum for exchanging information, discussing top concerns in education, and networking. In fall 2004, counselor workshops were sponsored in 10 locations throughout the state, at The Evergreen State College, the University of Puget Sound, Seattle Pacific University, the University of Washington Bothell, Western Washington University, the Water Resource Education Center in Vancouver, Central Washington University, Wenatchee Valley College, Washington State University Tri-Cities, and Spokane Community College.

Improving Curriculum and Instruction

The national education reform movement in the early 1990s focused on developing standards and performance-based assessments. Virtually all states – including Washington – took on the task of ratcheting up, systematizing, and assessing what students need to know and do at various grade levels and by subject. Although there have been significant improvements in student learning (particularly in the early grade test scores on reading and mathematics), there is still a significant need to improve curriculum and instruction as a key strategy for strengthening student transitions from high school to college.

In Washington, 70 percent of high school graduates go on to some form of postsecondary education within two years. Of these, more than half are not prepared for college-level study, particularly in mathematics. About 80 percent of the remedial classes required of recent high school graduates are in mathematics; while the remaining 20 percent are mostly in English. Most remediation takes place in community and technical colleges. According to a 2004 report by the State Board for Community and Technical Colleges, four-year institutions require almost 10 percent of their freshmen to take remedial courses.

Numerous efforts are underway in Washington to bolster curriculum and instruction in K-12 schools as a way of improving students' college readiness and easing the transition between high school and college. Because studies show that American high school seniors rank near the bottom in international tests of math knowledge, efforts are focusing on math curriculum and instruction. Twenty-two percent of college freshmen need a remedial course in math. In two-year colleges, the problem is even more acute; almost one-third of Washington students graduating from high school begin their higher education experience in two-year colleges, and of those students, half need pre-college (remedial) math in their first year.

Even a student who passes the math portion of the WASL does not necessarily have the skills to move into college-level math courses. High school graduates in 2008 will be required to show proficiency in reading, writing, and math on the 10th grade WASL, yet, while the WASL exam may help students know if they are on track for college, it remains a 10th grade test and therefore does not measure college readiness.

Recent key statewide efforts aimed at improving curriculum and instruction in K-12 schools are summarized below:

Transition Mathematics Project

The Transition Mathematics Project (TMP), managed by the SBCTC, is a collaborative project of K-12 schools, community and technical colleges, and baccalaureate institutions. The project has four goals: 1) aligning math standards and expectations so students enrolling in college will be prepared to enter college-level math classes; 2) increasing student success in completing math requirements in high school and college by clarifying standards and expectations, improving instructional course and program design, teaching methods, and classroom assessments; 3) building capacity of teachers and instructors to align curriculum and instruction to standards and expectations through improved instructional course and program design, teaching methods, and classroom assessments; and 4) communicating math expectations to students through clear and consistent messages and focused educational advising.

The TMP project has recently released draft college readiness standards for wide-scale review. The document (see Appendix B) is available at: www.transitionmathproject.org/standards.asp. The purpose of the college readiness standards in mathematics is to define the core knowledge and skills expected of students in college entry-level mathematics courses and courses with quantitative components, providing information and support needed for success in the transition from secondary to postsecondary education.

Strategies to Improve Teacher Knowledge/Skill in Mathematics Instruction

The 2004 Legislature directed the Professional Educator Standards Board (PESB) to address Strategies to Improve Teacher Knowledge/Skill in Mathematics Instruction. The PESB formed a subcommittee to review research and exemplary state practices related to preparation and professional growth for math teachers; assess the status of preparation and professional development in Washington; invite presentations and convene panel discussions with practitioners and experts; and collaborate with other agencies and organizations working to improve math instruction. Its report, "Math Teachers Count: Raising Teacher Knowledge and Skills = Raising Student Achievement" was presented to the governor, Superintendent of Public Instruction, State Board of Education, and education and fiscal committees of the Legislature in November 2004.

Recommendations address the need to review and revise the K-8, middle level math/science and secondary mathematics endorsements; determine whether these endorsements are properly aligned with subject matter knowledge tests; enhance the college and university pre-service programs that include stepped-up recruitment of students in mathematics and sciences, as well as better alignment of the curriculum taught by the math faculty in arts and sciences with the curriculum (math methods) taught by the college of education faculty; clarify general education requirements for students entering teacher preparation programs; improve five-year endorsement program reviews; improve first-year teacher data-gathering, through surveys of teachers and principals; improve information sharing on data studies; expand alternative route partnership programs in mathematics; provide support for mentor teachers in math; improve the newly developed online certification database (a centralized database); and assess the adequacy of inservice professional development in math.

Remedial Education Work Group

Substitute SB 5139, passed by the 2004 Legislature, directed educational agencies to “place a higher priority on their work to address the issue of remediation and take concrete steps to make measurable improvements.” The SBCTC, OSPI, and HECD were directed to convene a work group to address legislative concerns around the major causes of current gaps in the skills of recent high school graduates entering college. Specifically, the agencies were asked to address five key legislative questions and submit their findings to the Legislature. With SBCTC staff taking the lead in organizing this work, the agencies' report was submitted in December 2004 (see Appendix B).

The report found that 88 percent of recent high school graduates who enter Washington state public baccalaureate institutions are prepared for college-level work, but 55 percent of those enrolling in two-year institutions must take one or more pre-college (remedial) courses. The most common deficiency is in mathematics.

While the report notes that higher education institutions and agencies are implementing a number of responses to the problem, further work is needed, such as: 1) gathering better data to more precisely define the problem with specific kinds of students; 2) making better use of information-sharing to shape school district policies; 3) improving public school guidance programs to help all students make better decisions about what courses to take, and how to prepare for life after high school; and 4) encouraging curricular innovations for the high school senior year and the summer transition from high school to college so that students would be able to review and refresh their skills before entering college. Several other strategies are outlined in the report.

Study on Pre-College Course Taking in Two-Year Institutions

The SBCTC completed a research report in November 2004 titled “Pre-College (Remedial) Course Taking by Recent High School Graduates who Attend Washington Community and Technical Colleges” (see Table B). The report found that 55 percent of community and technical college students who graduated from high school in 2003 took pre-college (remedial) classes in 2003-04. These students (10,371) enrolled in pre-college mathematics, English, or reading. Each year, about 30 percent of high school graduates enroll immediately in community and technical colleges, and an additional 16 percent enroll within one or two years after graduation. Within three years, nearly half of all high school graduates enroll at a two-year college in Washington.

Minimum College Admission Standards

Washington statute requires the HECB to define minimum freshman admission standards for Washington's public four-year college and universities. This responsibility was confirmed when the Legislature and governor revised the board's statutory responsibilities in 2004 (RCW 28B.76.290). These standards signal to students, parents and K-12 educators the academic preparation students need to succeed in college. They also inform high schools of the content and quality of courses they must offer to ensure their students have the opportunity to gain admission, enroll in institutions of higher education, and earn bachelor's degrees.

The HECB adopted most of the current minimum standards for freshman admission in 1988, and these requirements were fully implemented in 1992. In 2000, the board revised the science requirement, requiring entering college freshmen in 2010 to complete two years of laboratory-based science. At least one year must be in a course that requires the student to use algebra.

Over the past several years, the higher education community has reached broad agreement that the current admission standards are inadequate, and that more rigorous preparation is required for freshmen entering the state's colleges and universities to succeed in their studies and complete baccalaureate programs.

Since 2003, HECB staff have studied this issue and met with K-12 and higher education leaders to determine whether to revise the current standards and, if so, which revisions are necessary. Early in 2004, a work group convened by the HEBC suggested revisions based on research and the institutions' recent admission experiences. The institutions' presidents and provosts reviewed, revised, and approved a draft set of recommendations, and the proposal was presented to the board in December 2004.

During its December 10, 2004 meeting, the HECB directed staff to publicize the recommended minimum admission changes, conduct a public comment process, and prepare final proposed standards and background materials for consideration and possible adoption by the board in summer 2005. Five public hearings will be held during April and May 2005. If adopted, the revised standards would take effect in fall 2008.

Key changes to the current standards would:

- *Increase the high school mathematics requirement to four years.* Currently, students must complete three years of math in high school, beginning with algebra. This proposal would add a fourth year of math, with students choosing from two optional sequences.
- *Revise the high school science requirement.* Currently, students are required to take two years of science, of which one year must be laboratory-based. The proposal would require two years of laboratory-based science, of which one year would require the student to understand and use algebra.
- *Require students in each year of high school to take at least three college preparatory courses that last for the entire school year.* Students would have the option of taking additional year-long courses.

- *Eliminate the statewide college Admission Index*, a formulaic scoring and ranking system that is used to evaluate high school graduates based on their cumulative grade point averages and scores on the SAT or ACT college entrance exams. However, the proposal would leave intact the requirements that students achieve at least a 2.0 Grade Point Average on a 4.0 scale, and that they submit college test scores (SAT or ACT) to be considered for admission.

Defining College Readiness in Key Subject Areas

In its 2004 Strategic Master Plan for Higher Education, the HECB charted a new course to lead a collaborative effort with the goal of developing a definition of college readiness in the key subject areas of mathematics, science, English, social studies, world languages, and the arts (see Table B). The board's long-term objective is for minimum college admission standards to be expressed as a set of skills – identifying what students must know and be able to do to succeed in college – rather than reflecting the time spent learning particular subjects.

An HECB-assembled work group will review strategies for developing a definition of college readiness, taking into account existing state and national college readiness standards (e.g., HECB's Competency-based Admissions project from 2001, college-level writing competencies under development by two-year college faculty, and the American Diploma project – a national initiative to infuse rigorous academic standards and college and workplace preparation into the high school curricula). By June 2006, draft definitions of college readiness in mathematics, science, English, social studies, and world languages will be published. The board will adopt final definitions following public review in December 2006.

This effort to define college readiness will provide high schools with the critical information they need to ensure that their curricula reflect the knowledge and abilities that students need in order to succeed in college and earn bachelor's degrees. It also closely links college readiness to the state's K-12 reform agenda, which sets learning goals for students through grade 10.

While efforts to implement the master plan continue, the HECB believes it is important to convey to students, families and K-12 educators the urgency of upgrading the state's minimum college admission standards for students entering high school in the next few years.

Federal Grants to Improve Teacher Quality

Since 2002, the federal *No Child Left Behind Act* has authorized the funding of higher education partnerships in each state through the Title II, Part A, Teacher and Principal Quality Training and Recruiting Fund. The law supports professional development through K-16 partnerships that aim to improve teacher quality; increase the number of highly qualified teachers, paraprofessionals, and principals; and increase students' academic achievement.

In Washington state, the HECB manages the Title II, Part A higher education/school partnership grant program (\$1.2 million per year), while OSPI manages the companion K-12 professional development program. The HECB and OSPI work collaboratively in this endeavor. Fourteen higher education partnership projects currently focus on reading and mathematics professional development initiatives – primarily for middle and high school teachers.

Conclusions and Continuing Work Groups

Conclusions

Many states have added provisions to their school reform agendas to move toward a “seamless” system of education, from kindergarten through college, to help students make the often difficult transition from high school to college. The increasing popularity of K-16 initiatives in other states underscores the promise of this work, in areas such as curriculum alignment and clarification of standards; teacher preparation; improved school leadership -- especially for principals; college readiness and outreach; and early college programs (dual enrollment).

Washington hosts a number of exemplary K-16 initiatives that serve thousands of students each year. In addition, hundreds of associated school and college professionals work in this arena.

However, given the broad range of high-school-to-college connections and the different governance and funding systems for K-12 and higher education, this work continues to be a significant challenge. A growing concern for both policy makers and those implementing these many efforts in schools, higher education institutions, and communities throughout the state is how to continue to fund current and needed new initiatives. This is especially true for the many efforts that have started as pilot projects funded by extramural funds (federal and foundation grants).

Finally, a significant challenge is to how to bring the proven successful models of high-school-to-college transitions to all students and schools in the state. Many of these efforts are located in selected middle and high schools in Washington. Rural and small schools – and their students – are particularly lacking in such programs and services.

To expand Washington's K-16 work even further, the key stakeholders – state agencies, schools, colleges and universities, and related organizations – must remain committed to this important cross-sector work.

Continuing Work Groups

Currently, a number of agencies and organizations are collaborating on various work groups to address needed improvements in high school-to-college transitions. These include the HECB, OSPI, the SBCTC, the Workforce Training and Education Coordinating Board, the State Board of Education, and the Council of Presidents. Other agencies consulting on a regular basis in this work include the Washington Principals Association, the Washington School Counselors Association, and the Professional Educators Standards Board.

Appendix A:

Data Tables

Table 1
High School Dropout Rates by Race/Ethnicity – for the Cohort, and by Grade: 2002-2003

	Cohort Dropout Rate	Grade			
		9th	10th	11th	12th
American Indian/ Alaska Native	46.9%	15.0%	12.9%	14.5%	16.0%
Asian/Pacific Islander	18.1%	4.1%	4.0%	4.9%	6.5%
Black/African American	35.5%	8.9%	9.4%	10.3%	13.0%
Hispanic/Latino	39.0%	12.2%	11.1%	10.7%	12.4%
Statewide	24.3%	6.2%	5.9%	6.7%	8.1%

Source: Bylsma, Pete. *Graduation and dropout statistics for Washington's counties, districts, and schools. School year 2002-2003.* Olympia, WA: Office of the Superintendent of Public Instruction.

Table 2
**Meeting or Exceeding 10th Grade WASL Standard:
Percent of Students by Race/Ethnicity and Content Area: Spring 2004**

	Content Area		
	Mathematics	Reading	Writing
American Indian/ Alaska Native	23.2%	46.2%	46.6%
Asian/Pacific Islander	52.2%	70.5%	73.4%
Black/African American	16.0%	42.8%	48.9%
Hispanic/Latino	19.6%	41.3%	42.5%
White	49.2%	69.5%	69.7%
Statewide	43.9%	64.4%	65.2%

Source: Office of the Superintendent of Public Instruction. Olympia, WA: Retrieved from
<http://reportcard.ospi.k12.wa.us/reports/waslTrend.aspx?schoolID=1&reportLevel=state>

Table 3
**Students Needing Remedial Coursework by Race/Ethnicity:
2002 High School Graduates Attending a Public College/University in 2002-2003**

	Remedial Coursework			
	English and/or Math (unduplicated count in all remedial courses)	Math and English (students taking both)	Math Only	English Only
American Indian/ Alaska Native	42.1%	16.1%	19.4%	6.6%
Asian/Pacific Islander	32.9%	11.3%	17.3%	4.2%
Black/African American	48.0%	20.7%	19.7%	7.6%
Hispanic/Latino	56.6%	26.1%	22.5%	8.0%
White	36.7%	9.3%	23.3%	4.1%
Total	37.6%	10.7%	22.4%	4.4%

Source: Social and Economic Sciences Research Center. *Washington state graduate follow-up study: Class of 2002 all graduates, first year after graduation, statewide results.* Olympia, WA: Office of the Superintendent of Public Instruction.

Table 4
Percentage of First-Time-In-College, Bachelor-Degree-Seeking Students Enrolled Fall 1996
Who Graduated from the Same College/University (without transferring)
by Race/Ethnicity – Four-Year Institutions

	Public 4-Year Institutions		
	Graduating Within 4 Years	Graduating Within 5 Years	Graduating Within 6 Years
American Indian/Alaska Native	21.0%	44.0%	48.0%
Asian/Pacific Islander	34.0%	59.0%	66.0%
Black/African American	16.0%	40.0%	50.0%
Hispanic/Latino	29.0%	51.0%	56.0%
White	33.0%	57.0%	63.0%
Total	34.0%	57.0%	61.0%

Note: Students of “Unknown” racial/ethnic backgrounds are excluded from the table but included in the Totals.

Source: National Center for Education Statistics. Integrated Postsecondary Education Data System 2002 Graduation Rates Survey.

Appendix B:

Reports

Working Paper
Recommendations of the Dual Enrollment Work Group
for Expanding Dual Enrollment Options for Students on High School Campuses

Background

The 2004 Legislature passed two bills that addressed the issue of expanding dual enrollment options for high school students: (1) Senate Bill 6561 called for OSPI, the SBCTC, the HECB, the COP, the WTECB, public secondary school principals and public school district superintendents to strengthen and expand dual enrollment programs on high school campuses; and (2) HB 3103, called on the Higher Education Coordinating Board to report to the Legislature every two years -- beginning in January 2005 -- on efforts to expand dual enrollment and to increase articulation and align curricula between high schools and higher education.

Gov. Locke vetoed SB 6561 in large part because it duplicated the requirements of HB 3103. In his veto message, the governor asked OSPI, the SBCTC, and the HECB to create incentives for offering dual enrollment programs and remove barriers that inhibit their availability. He further asked that a report on the results of these efforts be submitted to the Legislature by December 15, 2004.

Progress Report

OSPI, with agreement among the other state agencies, took the lead on convening a Dual Enrollment Work Group to identify barriers to expanding dual enrollment and to identify strategies for expanding options for high school students. The work group agreed that the major area of focus would be on creating an opportunity for students to engage in college-level learning on high school campuses, and that the goal is to create a “condition” where students’ financial situation does not limit their participation. The major strategy that emerged was an expansion of College in the High School (CHS) programs. While CHS guidelines have been in place for several years, only a few colleges are currently offering more than a handful of classes through the programs.

Potential barriers to expanding dual enrollment include:

- Financial aid eligibility may be cut short before a student enrolls in college;
- Students view college credit as an enhancement, rather than an efficiency toward college degrees; thus, dual enrollment programs may not be the savings the state understands it to be;
- Smaller schools do not have enough students to put together College in the High School classes;
- High schools are sometimes unclear about which college staff have authority to enter into CHS agreements; and
- Poverty and geography can limit student participation.

***Working Paper - Recommendations of the Dual Enrollment Work Group
for Expanding Dual Enrollment Options for Students on High School Campuses***

Reasons to expand dual enrollment include:

- Running Start does not cover transportation or books, which limits access for low-income students;
- Colleges are not always geographically close to high schools, making it more difficult for some students to attend Running Start programs;
- A high school environment may be better able to support high school students that are engaged in college-level work;
- Dual enrollment is one strategy that will help high schools increase the rigor of their overall instructional programs;
- Students are able to preview college curriculum and expectations;
- Dual enrollment can be more affordable for families; and
- Dual enrollment programs bring schools and colleges together to address strategies for improving both student readiness and the transition from high school to college.

Recommendations

The Dual Enrollment Work Group has proposed that a dual enrollment enhancement for College in the High School, calculated as 7 percent of the average statewide apportionment rate for 1.0 FTE (annual average full-time equivalent), be paid to the high school for each student enrolled in a 5 credit dual enrollment class, resulting in revenue of approximately \$280 per student (per 5 credit dual enrollment class) in the 2003-04 school year. The enhancement would be passed through to the college or university awarding the credit to cover supervision and administration of college-level courses that are taught on high school campuses. This proposal is not meant to answer all fiscal concerns, and, as noted above, more work needs to be done to determine the basic education amount associated with the enhancement amount.

Any high school that would offer College in the High School would adhere to the Guidelines for College in the High School Academic Transfer. The additional FTE enhancement would cover the costs to the higher education institution for supervision and administration of the program. Those costs include college or university oversight costs, as well as college or university departmental coordinator costs. Oversight costs would include stipends paid to college or university liaisons for site visits, handbooks, library privilege fees, e-mail account setup, and other costs specific to the maintenance of the courses. Departmental coordinator costs include the stipends paid to college or university department coordinators, who supervise the liaisons and coordinate the curriculum and instruction within the department. Additionally, such courses would need to enroll a minimum of students.

The high schools would cover the costs of high school teacher salaries, instructional materials, initial high school teacher training and on-going professional development, and other incidental costs associated with supporting the learning and teaching of these courses.

Note: The WTECB has not been included in this work to date.

Washington Opportunity Scholars

Getting ready for high school. Getting ready for life.

ABOUT WASHINGTON OPPORTUNITY SCHOLARS (WOS)

- WOS motivates students to take more rigorous coursework in high school to better prepare for postsecondary education and careers.
- This Initiative builds on research that shows a direct correlation between challenging high school coursework and success in the modern workforce, the military and any postsecondary education.
- Working with the national Center for State Scholars, Partnership for Learning is leading state efforts to increase the number of students completing the WOS course of study.
- WOS is supported by Gov. Gary Locke, Superintendent of Public Instruction Terry Bergeson, K-12 and higher education leaders and community and business leaders. Representatives from these groups also helped define the WOS course of study.
- WOS school districts include Bellevue, Kennewick, Tacoma, Tukwila, Anacortes, North Thurston, and a consortium of nine rural school districts in northeast Washington.

KEY COMPONENTS OF WOS

Through the WOS Initiative, employers, educators and policymakers will work together to:

- Recommend a single course of study to better prepare students for college, the military or the workforce;
- Reinforce the Certificate of Academic Achievement graduation requirement;
- Organize business volunteers to go into eighth-grade classrooms – just before students make their high school course selections – and talk with them about the importance of this course of study;
- Create community-wide incentives and support mechanisms to help student stay on track; and
- Advocate aligning financial aid, college admissions and other relevant state policy with completing the Washington Opportunity Scholars course of study.

THE WOS COURSE OF STUDY

- 4 years of English, including at least three years of literature and composition
- 4 years of math in high school (must include Algebra II)
- 3 years of science, including two lab sciences (biology, chemistry and, preferably, physics)
- 3 years of social studies courses that incorporate U.S. history, world history, economics and government
- 2 years in a language other than English (includes American Sign Language and Native American languages)

CONNECTION TO CERTIFICATE OF ACADEMIC ACHIEVEMENT

- Beginning with the class of 2008, students must earn the Certificate of Academic Achievement by passing the 10th-grade Washington Assessment of Student Learning (WASL) in reading, writing and math in order to graduate. Science will be added in 2010.
- The goal is to ensure every student earns a more meaningful diploma. But students will need more than just sophomore-level skills to be successful after high school.
- WOS reinforces these efforts by encouraging students to continue to take rigorous coursework *throughout* high school.

THE NATIONAL STATE SCHOLARS INITIATIVE

- WOS was created through the national State Scholars Initiative.
- Washington is one of twelve participating states.
- The Center for State Scholars, a 501(c)(3) established to support business coalitions on the State Scholars Initiative, is sponsored in part by the Office of Vocational and Adult Education, U.S. Department of Education.

FOR MORE INFORMATION

- Contact Monica Ferris at (206) 957-2609 or visit: www.partnership4learning.org/statescholars.htm

Pre-college (Remedial) Course Taking in Washington Postsecondary Education: Causes and Solutions

A Report Submitted to the Washington State Legislature by the State Board for Community and Technical Colleges, the Office of the Superintendent of Public Instruction, and the Higher Education Coordinating Board

December 2004

SUMMARY

- Placement test results show that 88 percent of recent high school graduates who enter Washington state public baccalaureate colleges or universities are prepared for college-level work. However, 55 percent of recent high school graduates who enroll in community and technical colleges must take one or more pre-college (remedial) courses. Remedial course-taking by recent high school graduates represents two percent of the total state- and contract-funded enrollment in two-year colleges.
- The most common deficiency is math. Fifty percent of the high school graduating class of 2002 needed a remedial math class when they enrolled in a community or technical college.
- Existing statewide data are inadequate to tell the whole story, but system experts believe that the core issues are *communication, student preparation and planning, assessment, curriculum, and teaching methods*.
- Higher education institutions and agencies are already implementing a number of responses to the problem, most notably the Transition Mathematics Project and communication initiatives to inform counselors, students and parents about the importance of taking more rigorous math in high school, and taking math in the senior year so that math skills are fresh when students enroll in college.
- The Higher Education Coordinating Board (HECB) is also working on two fronts to improve student readiness for college and reduce remediation. The HECB this month approved a review of its current minimum basic admission standards for freshmen at public four-year institutions, and has recommended requiring applicants to complete more rigorous math and science coursework in high school. Revisions to the state's minimum admission standards, if adopted, would take effect with the freshmen class entering college in 2008.
- In accordance with its 2004 Strategic Master Plan, approved in July, the HECB will also develop a comprehensive definition of college readiness in the academic subject areas required for college preparation. This definition of readiness will lay out the key competencies—what students must know and be able to do—required for success in college.

System experts' recommendations include:

- gathering better data to more precisely define the problem with specific kinds of students,
- making better use of information-sharing to shape school district policies,
- improving public school guidance programs to help all students make better decisions about what courses they take and how they prepare for life after high school,
- encouraging curricular innovations for the high school senior year and the summer transition from high school to college to provide a review and skills "refresher" opportunity for students.

BACKGROUND

Substitute Senate Bill 5139, passed by the 2004 Legislature, asserted that "insufficient progress has been made in reducing the proportion of recent high school graduates who must enroll in remedial or pre-college classes at Washington's public colleges and universities." The legislation directed education agencies to "place a higher priority on their work to address the issue of remediation and take concrete steps to make measurable improvements." Specifically, the bill directed the State Board for Community and Technical Colleges, the Office of the Superintendent of Public Instruction, and the Higher Education Coordinating Board to convene a work group that would address the questions below and provide a summary report to the Legislature by December 15, 2004.

By agreement among the agencies involved, SBCTC staff took the lead in organizing the work involved in responding to SSB 5139. Two discussions have been held – one on issues related to math, one on reading and writing. Both discussions involved K-16 faculty, administrators, and other policy staff with expertise in the areas addressed. (see Appendix 1 for a list of participants). The key questions addressed by the groups were defined by the language of SSB 5139:

- (a) What are some of the major causes of current gaps in the skills of recent high school graduates entering college?
- (b) What are some strategies for communicating to all Washington high schools the standards and expectations for the knowledge and skills high school graduates need for college-level work?
- (c) What are some innovative strategies currently used by school districts and other initiatives or programs designed to provide high school graduates with the knowledge and skills needed for college-level work?
- (d) What are some actions K-16 educators can take to address the gaps in knowledge and skills so that the need for remediation of recent high school graduates in public higher education institutions is significantly reduced?
- (e) What are some benchmarks that could be used to measure the reduction in the remediation of recent high school graduates over the next three years?

This report provides context and a brief overview of the remediation problem, and then addresses these questions.

CONTEXT AND SCOPE OF PROBLEM

Placement Tests: As “open door” institutions, community and technical colleges provide educational opportunities for all adults regardless of their educational background. However, access to many required courses may depend upon successful completion of pre-college course work. To assure student success, colleges require that all entering degree-seeking students take one or more placement exams prior to taking math and English classes. Most commonly colleges use one of three tests:

- The College Board’s Accuplacer (<http://www.collegeboard.org/accuplacer/html/accupla1.html>)
- ASSET (<http://www.act.org/asset/index.html>) developed by ACT
- COMPASS (<http://www.act.org/compass/index.html>) developed by ACT

Washington’s four-year colleges (except The Evergreen State College), use tests administered by the Academic Placement Testing Program (APTP), a cooperative program for the state’s four-year public universities. The test results help students and their university advisers select the mathematics courses for which they are best prepared.

Placing in and Succeeding in Pre-College Classes: Most high school graduates who need pre-college course work attend community and technical colleges. A substantial number of these entering students “place” in pre-college courses (courses above the 9th grade level, but below college), especially in pre-college math – math up to Algebra II (intermediate algebra¹) courses or their equivalents.

Students pay the same tuition for pre-college classes as college-level courses, and the courses do not apply to the student’s degree credits. This is likely to extend the time it takes to earn a degree and make it more difficult for students to schedule other programs and courses.

Nonetheless, it’s important to note that most students succeed in remedial courses, and in the follow-on college-level courses. A study of recent baccalaureate graduates found that 56 percent of those who started at the community and technical colleges had taken a pre-college course, most often math. Those students graduated at high rates in all major fields, and with senior-year GPAs comparable to students who did not take pre-college courses.

The colleges and universities in Washington—two-year and baccalaureate alike—agree that high school graduates can complete their college programs in the least amount of time and at the lowest cost by following the recommended college-bound course requirements while in high school. Completing the college-bound course requirements begins by doing well on the Washington Assessment of Student Learning (WASL) in the 10th grade, and then building on that foundation by taking challenging coursework with a continued emphasis on reading, writing, and mathematical reasoning. This curricular recommendation applies to students planning to complete a two-year professional technical associate degree as well as those planning to complete a bachelor’s degree.

¹Community and technical colleges, like baccalaureate institutions, regard students as ready for college-level math after successful completion of **intermediate algebra**. Some technical degree programs can be completed without first taking intermediate algebra, but many technical degrees and all programs designed to prepare students for baccalaureate institutions require math or other quantitative skills above the level of intermediate algebra.

Pre-College (Remedial) Course Taking in Washington Postsecondary Education: Causes and Solutions

Students in high school should complete – at a minimum – the equivalent of intermediate algebra (algebra II). Students should continue with math—or a math-intensive science class—during their senior year. Completing challenging math courses in the senior year provides students with the best opportunity to enter college with the pre-college math skills critical to success in first-year college-level courses. (For more detailed information about those skills, see <http://www.transitionmathproject.org>).

Role of Pre-College: Last year, nearly 75,800 community and technical college students took at least one pre-college course (19 percent of all students). The typical student taking pre-college courses is an older adults who enrolls in one such class along with one or two college-level courses (a common pattern would be: Intermediate Algebra, College Composition and Spanish 101).

Consequently, pre-college course work accounts for eight percent of total FTE students. Most students take pre-college courses because they have been out of high school or college for several years and thus need to refresh their skills. The pre-college coursework taken by students within the first three years after high school graduation accounts for two percent of state- and contract-funded FTE students.

Recent High School Graduates Taking Pre-College Courses: While only a small portion of community and technical college students in any pre-college class are recent high school graduates, their enrollment is of particular interest because of the relatively high rate of recent high school graduates who need such courses (for additional data, see Appendix II).

- 31 percent of Washington high school graduates (18,863 last year) enroll immediately in community and technical colleges, and an additional 16 percent enroll within one or two years after high school graduation. Within three years of high school graduation, nearly half of all high school graduates have enrolled at a community or technical college in Washington.
- Fifty five percent of 2003 high school graduates who enrolled in Washington two-year colleges took at least one pre-college (remedial) course.
- Most of this pre-college work is in math – 49 percent of all recent high school graduates.
- The majority of high school graduates coming to Washington two-year colleges—more than 15,000 students—are well prepared in writing, with 81 percent placing in college-level Composition.

Faculty at some two-year colleges believe that the overall numbers may underestimate the extent of the writing and reading problems they encounter with recent high school graduates, both in pre-college courses and in college-level Composition courses. System data suggest that students whose native language is something other than English represent a significant portion (up to 30 percent) of these problems. In any case, course placement data show that math represents a more pressing concern.

For the public baccalaureate institutions, the numbers are considerably lower but the pattern remains comparable to the community and technical colleges.

- Some 10,593 2002 high school graduates enrolled in Washington public four-year colleges and universities in the 2002-2003 academic year (the most recent data available). The vast majority of these students were well prepared for college-level work.
- Some 1,219 students (12 percent) enrolled in at least one pre-college class in their first year at a baccalaureate institution.
- Most of that group – 940 students—enrolled in a pre-college math course.

Expenditures Related to Pre-College Course Taking in Community and Technical Colleges:

The community and technical colleges charge the same tuition for remedial and college-level courses. The two-year college system in 2003-04 spent an estimated \$55.5 million on pre-college courses for all students. This includes \$29.4 million in direct instructional costs and another \$26.1 million on indirect costs such as administration, plant, libraries and student services.

These expenditures primarily served adults returning to college many years after high school. The students in this report – recent high school graduates taking pre-college courses – represented just under two out of every 10 students in pre-college courses (10,371 students attending immediately after high school plus 3,600 recent graduates who delayed enrollment in college until one or two years after high school out of a total pre-college headcount enrollment of 74,793 individuals of all ages.)

With 12,586 state-supported pre-college FTEs served last year, the average expenditure per FTE equaled \$4,411. These are tuition-paying students and these cost figures include both state general funds and tuition. The recent high school graduates (both those attending immediately after high school and those attending after a year or two delay) represented 3,055 FTE and a total expenditure of \$13.5 million or 24 percent of the pre-college expenditures.

MAJOR SOURCES OF THE PROBLEM

Communication: Students, parents, and many K-12 teachers and counselors often do not have sufficient and timely information regarding preparation requirements and what's expected in order to succeed in college, especially community and technical colleges. Many do not realize that two-year colleges have the same requirements as four-year colleges in math.

Student Preparation and Planning: Many students, particularly those who attend community and technical colleges, do not get the guidance or information they need to plan for college during high school, and do not take college-track coursework. As a result, they often leave high school lacking the skills required for college-level work and are not prepared for the faster pace of college classes.

Assessments: The variety of placement tests used by higher education may be confusing for students, parents, and K-12 educators as they consider what's required for college preparation. There is concern about format and goal differences between the WASL and placement tests used by higher education.

Curriculum: There is a lack of cross-sector understanding, and possibly a lack of alignment, between secondary and postsecondary student expectations and specific learning outcomes, especially in math courses.

Professional Development for Teachers: For math in particular, there is a need for more and better content-specific professional development on good standards-based curricula and teaching strategies. For reading and writing, there are significant workload issues for teachers, raising questions about how much and what kind of writing is actually assigned in middle school and high school for the full range of students.

POSSIBLE SOLUTIONS

Current Activities: The State Board for Community and Technical Colleges, the Office of the Superintendent for Public Instruction, and the Higher Education Coordinating Board all recognize that these problems take systemic and long-term strategies to address. All three agencies are working together, along with the Council of Presidents, to give the remedial issue a higher profile and to find solutions.

Specifically in the area of math, the agencies are investing extensive staff time and resources on the Transition Math Project (<http://www.transitionmathproject.org>), a statewide effort jointly funded by the Legislature and the Bill & Melinda Gates Foundation, as the central vehicle for addressing remediation issues in the area of math.

The Higher Education Coordinating Board has also set in motion proposed revisions to the state's minimum basic admission standards for freshman, requiring more rigorous coursework in mathematics and science in high school. Furthermore, the HECB will be working to define college readiness not simply as a set of required courses, but as a set of critical knowledge and abilities (competencies, if you will) that students must have to be ready for successful post-secondary study. This new definition is slated for final adoption by the HECB in December 2006.

In addition, a number of existing activities have been identified as currently being taken either locally by individual colleges/school districts or statewide to reduce the level of remedial course-taking among recent high school graduates:

Communication:

- Providing clear and detailed information in the Washington Council's Higher Education book, provided to all high school counselors around the state, about the math requirements for two-year college programs
- Distributing "Got Math?" brochure to all Washington high school juniors, promoting need for taking more and more rigorous math courses in senior year

Student Preparation and Planning:

- Developing learner/worker/citizen guidance curriculum that helps middle and high school students plan their futures.
- Allowing students to take placement exams in high school so that they can prepare, for college and understand college-level expectations

Assessments:

- Examined higher education placement tools and the Washington Assessment of Student Learning (WASL) to analyze the alignment of item content and format.
- Incorporating information about high school math courses (what, when, grade) into college course placement decisions

Curriculum:

- Pairing study skills or college success courses with content area courses in a 10-credit learning community to provide a more effective skills foundation for students as they enter college.
- Providing Jump Start program between summer and fall quarters for borderline students based on placement test scores

Professional Development for Teachers:

- Providing collaborative training efforts for teachers of Composition (high school, colleges and universities) to help create closer alignment in curriculum approaches.
- Promoting cross-sector faculty sharing of syllabi, textbooks, and assessments in common courses (e.g., pre-calculus, intermediate Algebra/Algebra II)

Recommendations for Additional Strategies: *The work groups generated a list of strategies that could be pursued in each of the areas representing key sources of the remediation problems. Some examples:*

Communication Issues:

- Identify and use existing points of contact with students and parents – around WASL, student/parent conferences beginning in elementary school, “College nights,” etc. – to send clear messages about the demands of college (2-year and baccalaureate institutions) and why, in today’s economy, all students will need some form of post-secondary education and/or job training
- Conduct more and wider discussions about the annual college remediation reports (see <http://www.sbctc.ctc.edu/data/data.asp#DevEd> for the latest statewide summary, with each school district being provided its own specific data), especially with high school principals.

Student Preparation and Planning:

- Increase and improve peer tutoring efforts
- Build on “13th-year Plan” requirement to develop better course planning in high school
- Improve student guidance curriculum so that ALL students are prepared for success after high school

Assessments:

- Examine higher education placement tools and the College Readiness Standards to analyze the alignment of item content and format
- Offer early diagnostic placement assessments in high schools more widely across the state

Curriculum:

- Offer a “refresher” math course during senior year built around the College Readiness Standards
- Initiate Composition/Reading Transition Project (similar to math effort), and pursue cross-sector collaboration around specific reading and writing approaches/issues in context of other courses

Professional Development:

- Provide more focused in-service training for teachers on remediation, retention, learning theory, and intervention strategies for students who don’t meet the standards
- Use resources of Educational Service District offices to help teachers understand problem and ways to address it

Organizational Issues:

- Reduce class sizes for 9th and 10th grade math courses to allow for more individualized work with students
- Integrate efforts to enhance student readiness for college and workplace into SIP (School Improvement Plans) process
- Promote and encourage more local and regional K-16 faculty-to-faculty partnerships focusing on targeted efforts to improve student achievement in math

Possible Benchmarks: Better K-16 data-collection and data-sharing are needed to understand which students, following which particular patterns of course-taking in high school, seem to have the most significant problems when entering college. In the meantime, available data can continue to be tracked to measure overall reductions in postsecondary remediation of recent high school graduates, including information from:

- Pre-college and remedial education reports on recent high school graduates done annually by the State Board for Community and Technical Colleges (see www.sbctc.ctc.edu/data/data.asp#DevEd for details), and by the public baccalaureate institutions and shared with building principals and superintendents across the state.
- Reports provided to high schools by the Advanced Placement Testing Program run by the public baccalaureate institutions in Washington.
- Various local and regional efforts, including efforts by OSPI to encourage replication of a coherent, comprehensive guidance curriculum invented by the Franklin Pierce School District that has increased student enrollment in rigorous math and science classes.

The work groups also suggested that we consider some additional specific studies to help guide next steps in addressing the remediation issue:

- Expand the small pilot study examining the relationship of first-year college-level performance with performance on the WASL and on college placement tests.
- Gather data on high school student perspectives to identify key student attributes and background characteristics that influence both choices about and performance in high school math courses.
- Explore the perspectives of recent high-school graduates enrolled in pre-college courses to confirm or challenge our operating assumptions about their circumstances and rationales.

While acknowledging that the issues involved are complex and that addressing the problem requires multi-faceted and sustained collaborations, the key agencies involved—the State Board for Community and Technical Colleges, the Office of the Superintendent of Public Instruction, and the Higher Education Coordinating Board—believe that significant work is already underway, particularly the Transition Mathematics Project. Everyone is committed to working together with the Legislature to seek effective and feasible long-term approaches to reducing the amount of remedial course-taking by recent high school graduates in Washington.

Appendix I
Reading/Writing Work Group Participants
(at South Seattle Community College, October 14, 2004)

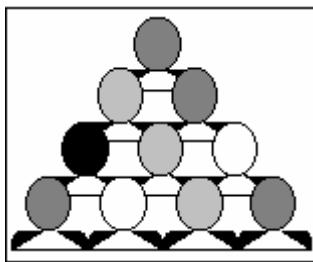
FIRST NAME	LAST NAME	INSTITUTION:
Patti	Anderson	Franklin Pierce SD
Kathy	Barker	Grays Harbor Community College
Linda	Beath	Central Washington University
Lynn	Briggs	Eastern Washington University
Kim	Chapman	North Seattle Community College
Laura	Coghlan	The Evergreen State College
Larry	Davis	State Board of Education
Pam	Dusenberry	Shoreline Community College
Terry	Duty	Tahoma HS
Doug	Emory	Lake Washington
Ken	Etkorn	University of Washington
Barbara	Haas	Edmonds Community College
Diane	Hanson	Grays Harbor Community College
Sally	Hanson	State Board for Community & Technical Colleges
Robin	Jeffers	Bellevue Community College
Brian	Jeffries	Office of the Superintendent of Public Instruction
Laura	Kohn	Gates Foundation
Laurie	Laughery	Grays Harbor Community College
Ruth	Lowe	Wenatchee SD
Anna Sue	McNeill	State Board for Community & Technical Colleges
Doug	Meyer	Yelm SD
Bill	Moore	State Board for Community & Technical Colleges
Cindy	Morana	Council of Presidents
Joan	Nealley	Spokane Falls
Carol	Perdue	Green River Community College
Simin	Pouya	WSCA
Diana	Pratt	Kentlake HS
Lauren	Servais	Cascadia Community College
Jane	Sherman	Washington State University
Tim	Stensager	Franklin Pierce SD
Russell	Tiberii	Western Washington University
Tom	Versteeg	Spokane Falls Community College
Jennifer	Vranek	Partnership for Learning
Tim	Washburn	University of Washington
Bryan	West	Spokane Falls
Cindy	Wilson	Pierce Ft. Steilacoom

Math Work Group Participants
 (at the Transition Math Project Summer 2004 Institute)

First Name	Last Name	Representing:
Katy	Absten	K-12
Ida	Baird	K-12
Linda	Beath	Central Washington University
Sandra	Bennett	K-12
Richard	Britz	The Evergreen State College
Helen	Burn	Highline Community College
Karen	Casto	Western Washington University
Sandy	Christie	K-12
Matthew	Conroy	University of Washington
Ron	Dalla	Eastern Washington University
Diane	Downie	Pierce College
Sue	Eddins	Achieve, Inc
Kaye	Forgione	Achieve, Inc
Tony	Forsyth	Tacoma Community College
Vauhn	Foster-Grahler	The Evergreen State College
Al	Friedman	Everett Community College
Michael	Gilbert	Eastern Washington University
Jane	Goforth	North Seattle Community College
Jim	Hamm	Big Bend Community College
Brinn	Harberts	Big Bend Community College
Carol	Hattan	K-12
Brian	Heaven	Olympic College
Cinnamon	Hillyard	University of Washington-Bothell
Donna	Huck	K-12
Robin	Jeffers	Bellevue Community College
Rick	Jennings	Office of the Superintendent of Public Instruction
John	Johnson	K-12
Tim	Keely	Tacoma Community College
Bill	Kring	K-12
Paul	Kurose	North Seattle
Jane	Lane	Eastern Washington University
Kristine	Lindeblad	K-12
Sue	Long	K-12
Michael	Lundin	Central Washington University
John	Martens	Centralia College
Theresa	Martin	Eastern Washington University
Lydia	McKinstry	The Evergreen State College
John	McLain	Higher Education Coordinating Board
Cindy	Morana	Council of Presidents
Ed	Morris	Highline College
First Name	Last Name	Representing:
Paul	Muckerheide	K-12
Joanne	Munroe	Whatcom Community College
Bev	Parnell	Yakima Valley Community College
Melody	Pecha	K-12
Eunice	Robb	South Puget Sound Community College
Don	Rogers	K-12
Joel	Schaaf	Lower Columbia College
Paula	Schofield	The Evergreen State College
Erik	Scott	Highline Community College
Jane	Sherman	Washington State University
Jenni	Taggart	University of Washington
Linda	Thornberry	K-12
Jennifer	Vranek	Partnership for Learning
Ginger	Warfield	University of Washington
Rosalind	Wise	K-12

Appendix II
Statewide Trends in Pre-College Course-Taking by
Recent High School Graduates Attending Community and Technical Colleges

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Pre-College Math	8,005	8,365	8,557	8,938	9,013	9,180
% Taking Pre-College Math	47%	48%	49%	48%	50%	49%
Pre-College Writing	3,510	3,711	3,608	3,715	3,639	3,671
% Taking Pre-College Writing	20%	21%	21%	20%	20%	19%
Pre-College Reading	1,657	1,792	1,779	1,832	1,781	1,986
% Taking Pre-College Reading	10%	10%	10%	10%	10%	11%
Any Pre-College Course	9,252	9,648	9,817	10,219	10,232	10,371
% Taking Any Pre-College	54%	56%	56%	55%	57%	55%



**Research Report
No. 04-1**

Washington State Board for Community and
Technical Colleges

**PRE-COLLEGE (REMEDIAL) COURSE TAKING BY RECENT HIGH
SCHOOL GRADUATES WHO ATTEND WASHINGTON COMMUNITY
AND TECHNICAL COLLEGES –**

**SYSTEM SUMMARY UPDATED FOR THE HIGH SCHOOL
GRADUATING CLASS OF 2003,
ENROLLED IN COLLEGE IN 2003-04**

November 2004

Key Findings

- Fifty-five (55) percent of community and technical college students who graduated from high school in 2003 took pre-college (also known as remedial) classes in 2003-04. This was a decrease from 57 percent in the previous year. These students – totaling 10,371 – enrolled in pre-college math, English or reading.
- Each year about 30 percent of high school graduates enroll immediately in community and technical colleges, and an additional 16 percent enroll within one or two years after high school graduation. Within three years of high school graduation, nearly half of all high school graduates have enrolled at a community or technical college in Washington.

This report provides information on these enrollment trends as required by RCW 28B.10.685. This system summary highlights the high school graduates who attended a community or technical college in the year following graduation (Part A and B). Part C provides information on the students who delayed enrollment at the college for one or two years after high school graduation. Part D describes the expenditures for Pre-College courses and college-level expectations regarding math and English.



For Information Contact:
Loretta Seppanen, Assistant Director, Education Services
Phone: 360-704-4348, email: lseppanen@sbctc.ctc.edu
Washington State Board for Community and Technical Colleges
P O Box 42495, Olympia WA 98504-2495

Part A

College Going Pattern of High School Graduates

Each year about 30 percent of Washington's new high school graduates enroll at community or technical colleges in the year following high school. About 28 percent of graduates go directly to baccalaureate institutions in Washington (20 percent) or enroll out of state in two-year or baccalaureate institutions (8 percent). Another 16 percent enter a community or technical college after waiting a year or two, or start at a four-year or out-of-state college and then transfer to a community or technical college.

College-Going Pattern for High School Classes of 1998 to 2002

	1998	1999	2000	2001	2002	2003
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Statewide Graduates - Public & Private High Schools	57,650	57,900	59,400	60,721	61,330	61,300
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Straight to Community and Technical Colleges After High School**

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
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Enrolled	17,123	17,261	17,441	18,587	18,022	18,863
% of Statewide Graduates	30%	30%	29%	31%	29%	31%

** Most enter in summer or fall after high school

Most high school graduates enroll in a two-year college to prepare to transfer to a university. More than a third enter to prepare for employment. Some students enter with both a work and transfer goal. The proportion of students choosing a workforce goal is slowly increasing.

High School Graduates Straight to Community and Technical Colleges By Goal

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
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Transfer goal*	13,558	13,401	13,727	14,830	14,223	15,088
% graduates enrolled	79%	78%	79%	80%	79%	80%
Workforce goal*	6,042	6,470	6,187	6,550	6,488	6,856
% graduates enrolled	35%	37%	35%	35%	36%	36%

* Graduates may be enrolled for both a workforce and a transfer goal in the same year

Part B

Statewide Trends in Pre-College Course Taking at Community and Technical Colleges

Pre-College Course Enrollments by CTC Students Attending Immediately After High School

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Pre-College Math	8,005	8,365	8,557	8,938	9,013	9,180
% Taking Pre-College Math	47%	48%	49%	48%	50%	49%
Pre-College Writing	3,510	3,711	3,608	3,715	3,639	3,671
% Taking Pre-College Writing	20%	21%	21%	20%	20%	19%
Pre-College Reading	1,657	1,792	1,779	1,832	1,781	1,986
% Taking Pre-College Reading	10%	10%	10%	10%	10%	11%
Any Pre-College Course	9,252	9,648	9,817	10,219	10,232	10,371
% Taking Any Pre-College	54%	56%	56%	55%	57%	55%

Pre-College Math: The rate of pre-college math taking by recent high school graduates is high but no longer increasing. Joint efforts of K-16 leaders should lead to an eventual decline in the rate of pre-college math course taking by recent graduates.

Community and technical colleges, like baccalaureate institutions, regard students as ready for college-level math after successful completion of **intermediate algebra**.² Students are best prepared for college-level math if enrolled in a rigorous math or related class through their senior year.

Pre-college math courses do not apply to the student's degree credits and may extend the time it takes to earn a degree. Although this extends the time and cost of college, most students who take pre-college math courses do achieve their academic goals. They successfully complete the pre-college courses and move on to complete their degrees or certificates. A study of recent baccalaureate graduates found that 48 percent of those who started at the community and technical colleges straight from high school had taken a pre-college course, most often math. Those students graduated at high rates in all major fields, and with senior-year GPAs comparable to students who did not take pre-college courses, and to students who started at the university (2.95 for younger CTC transfers with pre-college course, 3.03 for younger CTC transfers without pre-college courses, and 2.98 for direct-entry students).

Intermediate algebra is above the level of math currently required for a high school diploma. Thus, many high school graduates may be taking the pre-college, intermediate algebra course for the first time. High school graduates may complete their minimum required math studies as early as their junior year and discontinue math study. Thus many high school graduates may have lost their math skills in the two years between the last high school math class and the start of college.

² Some technical degree programs can be completed without first taking intermediate algebra, but many technical degrees and all programs designed to prepare students for baccalaureate institutions require math or other quantitative skills above the level of intermediate algebra.

Pre-college (Remedial) Course Taking by Recent High School Graduates Who Attend Washington Community and Technical Colleges – System Summary Updated for the High School Graduating Class of 2003, Enrolled in College in 2003-04

		High School Graduates By College Goal and Pre-College Math					
		1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Transfer goal*		13,558	13,401	13,727	14,830	14,223	15,088
Pre College Math		6,939	7,126	7,393	7,716	7,699	7,800
% taking pre-college math		51%	53%	54%	52%	54%	52%
Workforce goal*		6,042	6,470	6,187	6,550	6,488	6,856
Pre College Math		2,583	2,866	2,766	2,953	3,054	3,299
% taking pre-college math		43%	44%	45%	45%	47%	48%

* Graduates may be enrolled for both a workforce and a transfer goal in the same year

The rate of taking pre-college math was highest for students with a transfer goal, but increasing for students with a workforce goal. The math skills required in the professional and technical jobs gained through college programs are increasing, so colleges are asking students to complete more math in their technical programs. High school graduates may not be aware of the increased need for completing intermediate algebra in preparation for most technical programs.

Pre-College Writing: Statewide, 19 percent of recent high school graduates take **pre-college writing** at a community or technical college before taking college-level writing courses. Community and technical colleges expect the following skills as evidence of college-level writing:

Ability to use an effective writing process that includes strategies for generating and organizing ideas and for independent revision and editing. Ability to compose essays and other written materials (lab reports, summaries, etc.) that follow conventions of focus, organization, development and correctness.

Pre-College Reading: Statewide, 11 percent of recent high school graduates take **pre-college reading** classes at a community or technical college. Community and technical colleges expect the following skills as evidence of college-level reading:

Ability to read a variety of college entry-level academic, technical and/or online texts, identify the main ideas and major details, and organize the information in a way that demonstrates they understand what they have read. Students use appropriate skills and strategies such as pre-reading, marking texts, outlining, etc., to understand what is read.

College-to-College Variation: Some 55 percent of 2003 high school graduates enrolled at the community and technical colleges took one or more pre-college courses in their first year of attendance. The rate of pre-college course taking at community colleges ranges from a low of 40 percent at Centralia to 68 percent at Big Bend. Most of the technical colleges have a lower rate, reflecting the small percentage of high school graduates attending and the nature of the technical programs taken by those high school graduates. Centralia College has a consistent pattern of serving more top students from area high school classes than other community colleges. The unique mix of the very high performing students as well as all other high school graduates may explain their consistently lower rate of enrollment in pre-college courses.

**Number of 2002 High School Graduates Attending College, Number & Percent
Enrolled in Pre-College Courses - 2003-04**

College	Public and Private High School Graduates Enrolled	Graduates in at Least 1 Pre-College Course	% in At Least 1 Pre- College Course
Bates	73	21	29%
Bellevue	1,580	784	50%
Bellingham	117	6	5%
Big Bend	317	216	68%
Cascadia	427	207	48%
Centralia	389	157	40%
Clark	1,185	713	60%
Clover Park	114	53	46%
Columbia Basin	920	523	57%
Edmonds	818	527	64%
Everett	733	417	57%
Grays Harbor	287	151	53%
Green River	966	505	52%
Highline	861	413	48%
Lake Washington	167	82	49%
Lower Columbia	302	170	56%
Olympic	779	447	57%
Peninsula	235	115	49%
Pierce / Fort			
Steilacoom	579	356	61%
Pierce / Puyallup	430	271	63%
Renton	111	-	
Seattle Central	621	286	46%
Seattle North	307	137	45%
Seattle South	261	107	41%
Seattle Voc Institute	26	-	
Shoreline	863	395	46%
Skagit Valley	635	358	56%
South Puget Sound	655	351	54%
Spokane	654	343	52%
Spokane Falls	1,130	677	60%
Tacoma	783	440	56%
Walla Walla	335	206	61%
Wenatchee Valley	473	308	65%
Whatcom	766	379	49%
Yakima Valley	665	369	55%
System Total*	18,863	10,371	55%

*Each student counted once even though may be enrolled at two or more colleges during the year.

Part C

Statewide Trends in Students Who Delayed Entering College for One or Two Years After High School Enrollment in Pre-College Courses

RCW 28B.10.685 requires the State Board to report on the course-taking pattern for high school graduates from the past three years. While many high school students attend community or technical colleges in the year immediately after high school, a substantial group of high school graduates wait one to two years to attend college. The course-taking pattern of these students is somewhat different from those coming directly from high school, and so data on these students are reported separately here. Students who attend community and technical colleges with a delay of one or two years after high school graduation include:

- 38 percent who started at a Washington baccalaureate institution or out-of state college or university and transferred in with some credits already earned. These students may have already completed college-level math and English courses. Most students in this group do not take pre-college courses.
- 28 percent who had not attended college immediately after high school, and enrolled in two-year colleges for short-term programs such as workforce certificates not requiring college-level skills in math. Most students in this group do not take pre-college courses.
- 34 percent who had not attended college immediately after high school, and now were enrolled to prepare for transfer. Half of that group (51 percent) took at least one pre-college course.

Statewide Trend in Pre-College Course Taking for Students Who Delayed Enrollment at CTCs for 1 or 2 Years after High School

	1999-00	2000-01	2001-02	2002-03	2003-04
1 or 2 Years Later to CTC	9,141	8,520	9,673	11,675	9,752
% of prior year graduates	16%	15%	16%	19%	16%
Took Pre-College Math	2,691	2,618	2,913	3,374	3,061
% Taking Pre-College Math	29%	31%	30%	29%	31%
Took Pre-College Writing	1,180	1,076	1,299	1,311	1,172
% Taking Pre-College Writing	13%	13%	13%	11%	12%
Took Pre-College Reading	597	607	645	784	692
% Taking Pre-College Reading	7%	7%	7%	7%	7%
Any Pre-College Course	3,265	3,142	3,530	4,052	3,600
% Taking Any Pre-College	36%	37%	36%	35%	37%

Part D

Expenses for Pre-College Course Taking and College Expectations

Expenditures Related to Pre-College Course Taking: Students enrolled in pre-college courses pay the same tuition per course as for college-level courses. The college system in 2003 spent an estimated \$55.5 million on pre-college courses for all students. This includes \$29.4 million in direct instructional costs and another \$26.1 million on indirect costs such as administration, plant, libraries and student services. These expenditures primarily served adults returning to college many years after high school. The students in this report, recent high school graduates taking pre-college courses, represented 19 percent of the students in pre-college courses (10,371 students attending immediately after high school plus 3,600 recent graduates who delayed enrollment in college until 1 or 2 years after high school out of a total pre-college enrollment of 74,793 individuals of all ages).

With 12,586 state-supported pre-college FTEs served last year for students of all ages, the average expenditure per FTE equaled \$4,411. These are tuition-paying students and these cost figures include both state general funds and operating fees (tuition). The recent high school graduates (both those attending immediately after high school and those attending after a year or two delay) enrolled 3,055 FTE and a total expenditure of \$13.5 million or 24 percent of the pre-college expenditures.

Community and Technical College Expectations for Entering Students

As “open door” institutions, community and technical colleges provide educational opportunities for all adults regardless of their educational background and are committed to helping all students succeed. To help students begin their college coursework at a level of challenge most appropriate to their academic preparation, access to many required courses may depend upon successful completion of pre-college course work, either in high school or at the college. To that end, colleges ask all entering degree-seeking students to take one or more “placement” exams prior to taking math and English classes. These tests include The College Board’s Accuplacer (<http://www.collegeboard.org/accuplacer/html/accupla1.html>) and COMPASS/ASSET (<http://www.act.org/asset/index.html> and <http://www.act.org/compass/index.html>) developed by ACT, plus tests designed by college faculty.

A substantial number of entering students “place” in pre-college courses, especially in pre-college math—math equal to middle and high school Algebra I and Algebra II courses. While most such students are able to learn the pre-college skills and successfully complete the college-level courses, the additional coursework can add significantly to the time and cost of completing a degree or certificate.

The colleges and universities in Washington—two-year and baccalaureate alike—agree that high school graduates can complete their college programs in the least amount of time and at the lowest cost by following the recommended college-bound course requirements while in high school. Completing the college-bound course requirements begins by doing well on the Washington Assessment of Student Learning (WASL) in the 10th grade then building on that foundation by taking challenging coursework with a continued emphasis on reading, writing, and mathematical reasoning. This curricular recommendation applies to students planning to complete a professional technical associate degree as well as those planning to complete a bachelor’s degree.

In math, students in high school should complete through the equivalent of intermediate algebra (algebra II). Students should continue with math—or a math-intensive science class—during the senior year. Completing challenging math courses through the senior year provides students with the best opportunity to enter college with the pre-college math skills critical to success in first-year college-level courses (for more detailed information about those skills, see <http://www.transitionmathproject.org>).

College Readiness Standards Working Draft from the Transitions Mathematics Project

Background

Based on a careful analysis of a variety of existing related documents, the College Readiness Standards were drafted in summer 2004 by a small Development Team consisting of math experts from all three educational sectors in Washington: K-12, community and technical colleges, and baccalaureate institutions. This draft was then reviewed and refined by a larger Review Team of K-16 math and non-math faculty and curriculum specialists along with representatives from business and industry. (For more details about the process, see the project web site at <http://www.transitionmathproject.org>). This current working draft represents the culmination of their review work as of September 2004, but it is important to remember that it IS a draft—the Review Team's goal was to produce a draft for the purpose of wider engagement and debate, not to produce a final version. There are a number of areas in the draft still open to debate even among the Review Team members, and we are now in the process of gathering much broader input from key stakeholders around the state. On the whole, however, it should be noted that both the Development Team and the Review Team found a great deal of common ground, much more than many of them thought they would find when they began their deliberations.

Structure of the Document

The working draft consists of three sections: a list of “Student Attributes;” a set of eight standards, each of which has several components; and a closing section labeled “Additional Expectations.” The “attributes” are student characteristics that are not unique to mathematics but were consistently and enthusiastically seen by both the Development and Review Teams as significant elements of what makes students successful in entry college-level courses. If ultimately one significant use of this document is to provide a clear vision of the factors contributing to success in mathematics (as well as other disciplines) and communicate this vision to students and their parents, our project partners feel strongly that these attributes, or something like that, are a critical part of the vision.

Because we are committed to supporting and extending the ongoing education reform work underway in Washington public schools, you will see that by and large the structure of the eight standards parallels the structure and language of the Essential Academic Learning Requirements (EALRs) and Grade Level Expectations (GLEs) in mathematics (for more information on this work, see <http://www.k12.wa.us/ealrs/default.aspx>). While choosing to not use the labels formally, both the “process strands” (e.g., mathematical problem-solving) and the “content strands” (e.g., number sense) defined in the EALRs are reflected in the College Readiness Standards, and in many cases the language explicitly echoes the language of the EALRs. The Review Team believes that in many instances we are proposing that students need to maintain and solidify mathematical competence reflected clearly in the Grades 9-10 GLEs; in such cases the differences in expectations will be reflected less in the language of the standards than in the level of performance expected. Those differences will need to be demonstrated by specific example problems, and these problems are currently being developed. The one major difference between these College Readiness Standards and the EALRs is the separation of *functions* from the *algebra concepts and procedures* standard. Clearly there are connections and overlaps between the two, but the Review Team position is that for college readiness the significance of functions needs to be strengthened and emphasized.

The final “Additional Expectations” section is designed to acknowledge the specific needs for students who intend to begin their college-level math work in calculus (primarily students heading toward majors in math, science, or engineering)—what additional expectations do they need to meet in order to be prepared for calculus? These standards are important, but given the primary focus of the Transition Math Project and the problems we are trying to address, this area has been given the least amount of attention to date and is the least well-developed section at this point.

ATTRIBUTES—Students should possess the following general attributes or characteristics in order to be successful in college-level courses:

Take responsibility for their own learning

- Examine and self-correct their own work
- Reflect on the techniques used to do the problem and on their presentation
- Take responsibility for consequences of choices/actions
- Accurately assess and monitor strengths and weaknesses
- Work independently
- Attend class regularly
- Utilize tutoring services and faculty office hours

Persevere when faced with time-consuming or complex tasks

- Do multi-step complex problems
- Use multiple approaches to solve a problem
- Are willing to try a second path when the first path doesn’t work out
- Combine a variety of techniques to solve problems

Notice and attend to details

- Notice and retain symbols in mathematical work
- Notice patterns

Display intellectual curiosity

- Pose questions that reveal engagement with the material
- Investigate beyond questions posed
- Willing to take risks, be challenged

Contribute to and benefit from group problem-solving activities

- Are respectful of others
- Are cooperative
- Builds on others’ ideas

**College Readiness Expectations for Entry-Level Mathematics Courses
and Courses Requiring Quantitative Reasoning**

STANDARDS	MAJOR COMPONENTS
STANDARD A: Solve mathematical problems and reason logically.	<ol style="list-style-type: none">1. Formulate problems; select or provide relevant information; use mathematical concepts, models and representations.2. Consider and choose among various strategies, algorithms, models, and concepts to devise and carry out solutions.3. Evaluate processes, strategies, calculations, and solutions to verify reasonableness of solutions.4. Use deductive and inductive approaches, estimation, extensions, generalizations, and formal and informal methods of proof to justify your solutions.5. Use appropriate mathematical tools including various forms of technology to solve problems.
STANDARD B: Communicate mathematical understanding in everyday and mathematical language.	<ol style="list-style-type: none">1. Produce a convincing argument to support a solution, using everyday and mathematical language.2. Use symbols, diagrams, or words to clearly communicate reasoning processes, solutions, ideas, and conclusions.
STANDARD C: Make connections within mathematics, to other subject areas, and to real-world situations.	<ol style="list-style-type: none">1. Analyze the relationships between and among mathematical concepts and procedures.2. Extend mathematical thinking and modeling to other disciplines and real-life situations.
STANDARD D: Select and use concepts and procedures from number sense.	<ol style="list-style-type: none">1. Understand the concept of real numbers, including the meaning of rational exponents.2. Understand the properties of operations on the real number system.3. Compute fluently with real numbers in all forms including rational number exponents and scientific notation.4. Apply estimation strategies using real numbers.
STANDARD E: Select and use geometric concepts and models.	<ol style="list-style-type: none">1. Use drawings, models, Cartesian coordinate systems (two- and three-dimensional), spatial reasoning, and deductive/inductive reasoning to solve problems involving geometric figures.2. Understand and apply congruence, similarity, ratio, and proportions in problem-solving situations.3. Apply the three basic right triangle trigonometric relationships as ratios of sides of a right triangle to solve problems.

**College Readiness Expectations for Entry-Level Mathematics Courses
and Courses Requiring Quantitative Reasoning**

STANDARDS	MAJOR COMPONENTS
STANDARD F: Select and use concepts and procedures from algebra.	<ol style="list-style-type: none"> 1. Solve the following numerically, graphically, and algebraically, interpret the solution, and distinguish between exact and approximate answers: <ul style="list-style-type: none"> o Linear equations o Linear inequalities including those using “and” and “or” o Quadratic equations (including irrational and complex number solutions) o Absolute value equations of the form $ax+b =c$ o Exponential equations, graphically and numerically only. o Radical equations with one radical only. o Systems of equations and inequalities in two variables 2. Evaluate algebraic expressions (polynomials, rational, absolute value, radical) for given numerical values of variables. 3. Combine and simplify algebraic expressions including <ul style="list-style-type: none"> o polynomials o rational expressions o radical expressions o rational exponents
STANDARD G: Select and use functions to understand mathematical relationships.	<ol style="list-style-type: none"> 1. Understand and analyze features of a function and limitations on the domain of a function. 2. Represent functions (linear, quadratic, exponential, and reciprocal) using and translating among words, tables, graphs, and symbols. 3. Model situations and relationships using a variety of functions (linear, quadratic, exponential, and reciprocal).
STANDARD H: Select and use concepts and procedures from probability and statistics to analyze data.	<ol style="list-style-type: none"> 1. Use empirical and theoretical probability to represent, solve and interpret solutions of problems involving uncertainty, including conditional probabilities, independence and counting techniques (combinations and permutations) 2. Use measures of central tendency and spread to analyze and interpret data, draw inferences, make predictions, and justify conclusions 3. Create and explore mathematical models from data including linear, quadratic and exponential relationships. From these models, be able to make conjectures, predictions, and justify conclusions.

Additional Expectations (for students considering math/science majors or whose first college math class will be calculus):

STANDARD I: Represent, Analyze, and Use Advanced Functions (including trigonometric functions in the context of the unit circle, logarithmic, general polynomial, and rational):

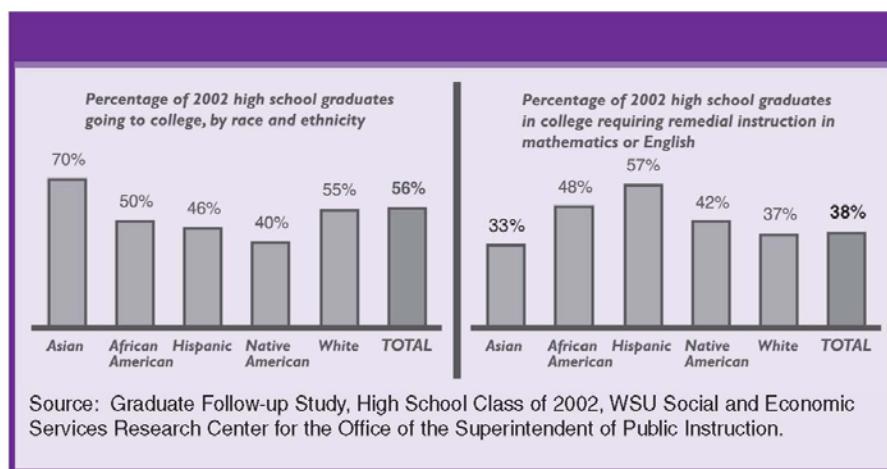
- o simplify expressions
- o solve equations
- o model situations and solve problems

Excerpt from: Higher Education Coordinating Board Strategic Master Plan

8 HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

Overview

Every year, large numbers of Washington students graduate from high school unprepared for college study or, many would argue, the workplace. Fifty-six percent of students who graduated from high school in 2002 enrolled in a Washington public two-year or four-year college or university within one year of graduation. Of those students, 38 percent required remedial mathematics or English courses.



Inadequate preparation in high schools takes an even greater toll on African American, Hispanic, and Native American students. Students from these groups in the high school class of 2002 were significantly less likely than their White or Asian peers to go on to college within a year of graduation and more likely to require remedial instruction when they enrolled. Higher education shoulders much of the cost of this lack of preparation.

The state higher education system must take a leadership role in developing a systemic solution to the problem of poor preparation. The Higher Education Coordinating Board proposes to collaborate with state K-12 and higher education systems to accomplish the following key initiatives:

- Develop a comprehensive definition of college readiness;
- Establish statewide student learning outcomes for grades 11 and 12 that are required for success in postsecondary study;
- Expand effective models that promote K-12/higher education collaboration and prepare students for college success; and
- Communicate with students, families, and schools the requirements of a rigorous high school education that will lead to successful postsecondary study and careers.

Higher Education Coordinating Board Strategic Master Plan

HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

These initiatives will help students prepare for higher education with a clear understanding of the knowledge and abilities required for success and the confidence that their high school coursework will be enough to gain them admission and prepare them for the rigors of college work.

Key outcomes of this proposal include (1) an increase in the number of students who are ready for postsecondary study and (2) the establishment of the critical groundwork to improve instruction, teacher training and development, and guidance counseling; reduce remediation at state colleges and universities; and narrow the achievement gap.

Analysis

The board envisions an integrated and barrier-free system of education from preschool through the fourth year of college. Washington students would move quickly and easily between educational levels and across sectors. Such a system would ensure adequate teacher preparation and ongoing professional development, timely and meaningful student counseling, continuous improvements in assessment and accountability, and a host of other endeavors.

Building this system will take time and effort and the will and commitment of all of the state's education stakeholders. By necessity, an integrated system must begin with efforts to define the knowledge and abilities students need at high school graduation in order to succeed in postsecondary study.

A definition of college readiness

The state has not done well in defining or communicating what students must know and be able to do to succeed in college. Current state minimum basic admission standards are not an accurate definition of college readiness. These standards, first adopted in the 1980s, place an undue emphasis on "seat time" and grades – expecting students to complete a set of required courses without appropriate concern for the content or instructional quality of those courses. Furthermore, few students who meet only the minimum requirements today are even competitive for admission to the state's four-year colleges.

The board seeks a new definition of college readiness to replace the state's current minimum basic admission standards. This definition, developed through collaboration between the K-12 and higher education systems, would emphasize the critical knowledge and abilities that students need for college success. It would align requirements for college success with the learning outcomes emphasized in K-12 reform. Finally, it would provide the information that students and schools must have – information that is missing in the current system – to address curriculum and instruction needs for college preparation.

Higher Education Coordinating Board Strategic Master Plan

HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

Collaboration to establish 11th and 12th grade learning outcomes

Washington will cross a watershed in its school reform efforts when students in the class of 2008 must meet 10th grade standards to earn a Certificate of Academic Achievement in order to graduate from high school. Most students will need to demonstrate mastery of those standards by passing the 10th grade Washington Assessment of Student Learning.

The higher education and K-12 systems now must work together to develop statewide learning outcomes for the 11th and 12th grades – based on a new definition of college readiness – to ensure that students have the knowledge and abilities required for college and the workforce. And the state must ensure that students preparing for study beyond high school – the majority of students – have the information, instruction, and curriculum they will need to bridge the gap between 10th grade learning outcomes and readiness for postsecondary success.

A catalog of effective practices

Programs that allow high school students to earn college credit – International Baccalaureate, Advanced Placement, Early and Middle College High Schools, and Running Start – have achieved considerable successes. Initiatives like GEAR UP, TRIO, Washington State Achievers, and Washington Opportunity Scholars have helped motivate and prepare low-income and first-generation students for higher education.

These efforts offer instructive approaches to addressing the need for more rigorous college preparation but are limited in their ability to reach students. The challenge for Washington is to diffuse these successful efforts throughout the state's educational system so that the instruction and services they offer will be available to all students who need them. But, policy makers in the state must first understand the extent, costs, and services of these diverse initiatives in order to determine which of them might be good candidates for expansion.

Communications with students, families, and schools

These initiatives will succeed only to the degree that they are understood and accepted by students, their families, and educators. The move toward an improved transition from high school to college must be transparent, offer frequent and appropriate opportunities for public comment, and be accompanied by a well-orchestrated public information campaign aimed at students, parents, and schools.

Higher Education Coordinating Board Strategic Master Plan

HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

Implementation Plan

- 1. The HECB will lead a collaborative effort with the goal of developing a definition of college readiness in the key subject areas of mathematics, science, English, social studies, world languages, and the arts.**

By August 2005, an advisory committee of state policy makers, K-12 and higher education administrators and faculty, and representatives of the private sector will submit to the HECB recommended strategies for developing a definition of college readiness for Washington. The committee will take into account existing state and national college readiness standards. Strategies will address the need to align the state's definition of college readiness with existing school reform efforts.

In September 2005, the HECB will issue a work plan for the state to adopt a comprehensive definition of college readiness.

By June 2006, the advisory committee and work groups will publish draft definitions of college readiness in mathematics, science, English, social studies, and world languages.

In December 2006, the HECB will adopt final definitions following public review.

Performance measures

The advisory committee charged with developing the definition of college readiness will determine performance measures.

Estimated costs

The HECB will absorb the costs of convening the advisory group. HECB staff will estimate further costs for special projects after the board issues its work plan in September 2005.

Examples of ongoing related work

- Numerous state and national efforts to define college readiness are now underway or have been recently completed, including the Transition Mathematics Project, a multi-sector initiative in Washington to develop and communicate readiness standards for college-level mathematics; the HECB's Competency-based Admissions Project, which ended in 2001; college-level writing competencies under development by two-year college faculty; and the American Diploma Project, a national initiative to infuse rigorous academic standards and college and workplace preparation into high school curricula.
- Several organizations are engaged in outreach and advocacy about the importance of rigorous high school preparation for college. In Washington, state education agencies have joined private-sector groups like the Washington Roundtable and the Partnership for Learning to call for high standards and high achievement for all students.

Higher Education Coordinating Board Strategic Master Plan

HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

2. The HECB will support the efforts of the Office of the Superintendent of Public Instruction (OSPI) to develop guidelines that identify the knowledge and abilities high school students must gain in grades 11 and 12 to be ready for college.

Performance measures

Timely completion and dissemination of 11th and 12th grade preparation guidelines to public and private K-12 schools statewide.

Estimated costs

The Superintendent of Public Instruction has the authority to develop learning outcomes for each grade level. The board supports the Superintendent's requests for state funds to complete this work.

Examples of ongoing related work

- An interdepartmental work group developing mathematics expectations for grades 11 and 12 has formed and will begin meeting after the Transition Mathematics Project issues its college readiness standards in early 2005.
- OSPI has continued to develop and disseminate "grade-level expectations" for reading, mathematics, science, writing, health and fitness, and the arts through grade 10.

Higher Education Coordinating Board Strategic Master Plan

HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

3. The HECB will document the variety of college preparation programs administered in Washington State. The HECB will publish its research findings with analysis and options for expanding the reach of these efforts.

By September 2005, the HECB will publish a report on promising state and national college preparation practices, including dual-credit, early awareness, tutoring, mentoring, teacher development, curriculum alignment, and parent advocacy programs. The HECB will identify these promising practices, in collaboration with the State Board for Community and Technical Colleges, the Superintendent of Public Instruction, and public and private colleges and universities

Beginning in January 2005, the HECB will biennially provide progress reports on increasing dual-credit opportunities.

Performance measure

The number of students who concurrently earn high school and college credit over 2003-04 levels.

Estimated costs

The HECB will absorb the costs of developing the inventory of effective practices. Costs associated with developing additional dual-credit opportunities and college outreach programs will be identified and presented to the legislature with board analysis and recommendations.

Examples of ongoing related work

- The State Board for Community and Technical Colleges reports annually on enrollments, student progress, and state funding efficiencies related to the Running Start program – the state's largest dual-credit program.
- Several agencies, including the HECB, are collaborating to develop recommendations for reducing college remedial instruction. This group presented its report in December 2004.
- The Superintendent of Public Instruction administers a program to develop more Advanced Placement programs in the state's high schools.
- Programs such as GEAR UP, TRIO, Opportunity Scholars, Gates Achiever Scholars, and numerous campus-based programs promote early college awareness and readiness, support student planning and academic achievement, provide teacher development, or align high school and college curricula. These programs serve tens of thousands of Washington students in middle school and high school.
- In January 2005, the board will address dual-credit opportunities in a report to the legislature on high school-college transition issues, as directed in House Bill 3103.

Higher Education Coordinating Board Strategic Master Plan

HELPING STUDENTS MAKE THE TRANSITION TO COLLEGE

4. The HECB will conduct communications and outreach efforts to educate students, parents, and educators about the new college preparation requirements.

By September 2005, the HECB will develop and, assuming the availability of adequate resources, execute a communications strategy to inform students, parents, educators, and the public about the development and implementation of new standards.

Following the 2004-05 academic year, the HECB will collaborate with colleges, universities, and state agencies to improve feedback to high schools about the performance in postsecondary education of their recent graduates. Strategies will include publicizing the percentage of students from each high school who enroll in postsecondary programs, persist in their studies, and require remedial instruction.

Beginning in January 2005, the board will work with the Superintendent of Public Instruction and other interested parties to provide early college planning information to every middle and high school student in the state.

Performance measures

- Increased high school offerings of college-preparation curricula.
- Increased high school enrollment in college preparatory courses.
- Decreased remedial instruction for recent high school graduates.

Estimated costs

The HECB will identify the costs and possible sources of funds to carry out the communication strategies.

Examples of ongoing related work

- Several existing programs – GEAR UP, TRIO, and others – provide college planning information and support to middle and high school students. Specifically, the state GEAR UP project has developed comprehensive college planning handbooks for students in the 6th through 12th grades.
- The Washington Council on High School-College Relations, a statewide organization of high school counselors and admissions officers, provides forums to improve students' transition from high school to college.
- The State Board for Community and Technical Colleges collects and reports remediation enrollments for the state's two-year colleges. Washington State University's Graduate Follow-Up Study provides remediation information about students at the state's four-year colleges.